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Theodoric, King of the Ostrogoths; born in Pannonia in 455; son of Theodemir, King of the Ostrogoths of Pannonia. From his eighth to his 18th year he lived as a hostage with the Emperor Leo at Constantinople. Two years after his return he succeeded to the throne. In 493 after several bloody engagements, Theodoric induced Odoacer, who had assumed the title of King of Italy, to grant him equal authority. The murder of Odoacer at a banquet soon after opened the way for Theodoric to have himself proclaimed sole ruler. Theodoric ruled with great vigor and ability. He attached his soldiers by assigning them a third part of the lands of Italy, on the tenure of military service; while among his Italian subjects, whom he conciliated by introducing an improved administration of justice, he encouraged industry and the arts of peace. Though, like his ancestors, he was an Arian, he never violated the peace or privileges of the Catholic Church. He died in Ravenna, Italy, August 30, 526.

Theodosius I., the Great, son of Theodosius, a general; one of the most notable and most capable of the later Roman emperors; born in Cauca, Spain, about 346; served under his father in Britain, Germany, and Africa, and won fame as a general by his exploits in Mœsia. On his father's death he retired to his native farm, whence he was summoned by Gratian to become his colleague in the purple and emperor in the East (379). He made Thessalonica his headquarters, and within four years, through patience and tact, after reviving the spirits of the imperial troops by small but decisive victories, he broke up the vast Gothic army, attached many of its members to the empire as faithful soldiers and allies under their own chiefs, and restored tranquillity to the troubled country S. of the Danube. He became sole Roman emperor in 394, and died on Jan. 17, 395 — a date memorable in the history of the later Roman empire, for almost immediately thereafter followed the barbarian invasions of Greece and Italy, which led directly to the subsequent Teutonic settlements in the S. and indirectly to the formation of the kingdoms of modern Europe.

Theology, a term applied by the classic authors to treatises on the nature and worship of the gods. Augustine quotes Eusebius and Varro as dividing theology into three kinds: the fabulous, that of the poets; the natural, that of the philosophers; and the political, that of the priests and the common people. The first and second kinds could be changed according to the will of the investigators; but the last could not be altered without national consent.

In Christianity, theology is the science which treats of divine things, especially of the relations of man to God. Doctrinal formulas are recognized in Scripture, but the term theology does not occur, though the elements of which it is compounded are found in close connection. Theology is primarily divided into natural and supernatural, or revealed; the former deduced by reason from a survey of the universe, the latter founded on revelation. Natural religion is recognized in Scripture (Ps. xix: 1–6, Rom. i: 19, 20), and is held to establish the being, power, wisdom, and goodness of God, the obligation of His moral law and the folly and danger of transgressing it, and the immortality of the soul. Revealed religion is considered to superadd to these doctrines those of the Trinity, the creation and fall of man, the penalty of sin, the mission, work, and atoning death of Christ, His resurrection, ascension, and second advent, with many other doctrines.

Theophilus, a legendary coadjutor-bishop at Adana in Cilicia, who, when deposed from his office through slanders, gave his soul in bond to the devil, and consequently was reinstated the next morning. But he was soon overtaken with remorse, and through 40 days' fasting and prayers prevailed on the Virgin to make intercession for him. She tore the bond from the devil, and laid it upon the breast of the repentant sinner as he lay asleep in the church. Theophilus then made a public confession of his crime and of the mercy of the Virgin, and died three days after.

Theophrastus, a Greek philosopher; often called the "father of botany"; a native of Eresus, in Les-

bos; flourished in the 5th century B. C. He became a pupil of Plato at Athens, and made, at the academy, the acquaintance of Aristotle; but he left the academy after Plato's death, and was absent from Athens for some years. On his return, he gladly studied philosophy under his friend Aristotle, who had so high a regard for him as to bequeath to him his library, and to name him his successor. Theophrastus had extraordinary success as head of the Lyceum, and was attended, it is said, by 2,000 disciples. Among them were Demetrius, Phalereus, and Menander. A charge of impiety was brought against him, but he successfully defended himself, and generously interposed to save his adversary from the popular vengeance. He was, however, compelled to leave Athens in 305 B. C., under the law which banished all philosophers. The law was soon repealed and he returned to his post and peacefully taught and commented on the system of his master, Aristotle, till his death.

Theorbo, in music, an old stringed instrument resembling the lute in form or tone. It had two necks, to the longest of which the bass strings were attached. It was employed for accompanying voices, and was in great favor during the 17th century.

Theorem, in geometry, a proposition to be proved; a statement of a principle to be demonstrated; that is, the truth of which is required to be made evident by a course of reasoning called a demonstration.

Theoria Motus, or **Theoria Motus Corporum Cœlestium,** the names by which is usually quoted the work of Gauss, in which he first showed the method of computing an orbit from three determinations of a planet's or comet's position, and thus rescued astronomers from the danger of losing the newly discovered asteroid Ceres after it had disappeared in the region of the sun.

Theosophy, a name which since the time of Ammonius Saccas, in the 3d century after Christ, has been used in the West to cover various schools of religious philosophy, which all unite in the fundamental conception that man, in his innermost nature, is a spiritual being, one in his essence with the Universal Spirit manifested in and through the universe. In this general sense it includes mystics differing from one another in details.

Therapeutæ, an ascetic sect, supposed to live chiefly on Lake Mareotis, near Alexandria. Their discipline resembled that of the Essenes, but was more severe in food and in the preference for the solitary life to the common fellowship. Throughout the week each lived in his lonely dwelling, but on the Sabbath they assembled for worship.

Therapeutics, the science which treats of the healing of diseases. It deals with the form, manner, and time in which drugs should be administered, classifies remedial agents, and investigates the laws of health.

Thermite, a welding compound of oxide of iron and alum, useful also, with titanium oxide, in manufacturing castings free from air-holes.

Thermo Barometer, an instrument for measuring altitudes by means of determining the boiling point of water. They consist essentially of a small metallic vessel for boiling water, fitted with very delicate thermometers, which are only graduated from 80° to 100°; so that each degree occupying a considerable space on the scale, the tenths, and even the hundredths of a degree, may be estimated, and thus it is possible to determine the height of a place by means of the boiling point to within about 10 feet.

Thermodynamic Engine, any form of heat engine (as gas or steam engines) by means of which a percentage of the heat lost by one body called the source, on account of its connection with another body called the refrigerator, is converted into kinetic energy or mechanical effect, and made available for the performance of work.

Thermodynamics, the branch of theoretical physics which treats of heat as a mechanical agent, and is the basis on which the modern doctrine of energy is built. Thermodynamics is based on two laws. The first law enunciates heat to be a form of energy and subject to the conservation principle. A given quantity of work can always be transformed into an equivalent quantity of heat; but in transforming heat into work a cer-

tain limitation exists which is expressed in the second law of thermodynamics. This law asserts that it is impossible, by physical processes, to transform any part of the heat of a body into mechanical work except by allowing heat to pass from that body to another at a lower temperature.

Thermoelectricity, electricity produced at the junction of two metals, or at a point where a molecular change occurs in a bar of the same metal, when the junction or point is heated above or cooled below the general temperature of the conductor. Thus when wires or bars of metal of different kinds, as bismuth and antimony, are placed in close contact, end to end, and disposed so as to form a periphery or continuous circuit, and heat then applied to the ends or junctions of the bars, electric currents are produced.

Thermograph, a thermometer provided with a recording device. The form generally used has a crescent shaped bulb, filled with alcohol and hermetically sealed. A change in the temperature affects the curve of the bulb, and the alteration of form is communicated to a series of multiplying levers, which in turn exaggerate the motion, and give impetus to a recording pen. This pen makes a tracing on the ruled paper of a moving cylinder.

Thermometer, in physics, an instrument for measuring intensity of heat or temperature. Its construction involves the arbitrary selection of a thermometric body, with standard thermal states equivalent to ice and boiling water at standard pressures, a number being given to one of these standard temperatures, and a scale or number of degrees established between the two. Mercury is generally employed, and an ordinary thermometer consists of a spherical or cylindrical glass bulb at the end of a very fine tube, the bulb being completely filled and the tube partly filled, with mercury, while the space above the mercury contains only a small quantity of mercury vapor, which offers no resistance to the expansion of the mercury. On the Centigrade or Celsius thermometer (used by scientists everywhere), the freezing is 0° and the boiling point 100°; on the Reaumur thermometer the freezing point is 0° and the boiling point 80°; on the Fahrenheit thermometer (in general use in the United States and England), the freezing point is 32°, and the boiling point is 212°. Degrees above 0° are termed + degrees, while those below 0° are termed — degrees. Mercury can only be used for temperatures between —40° and + 675°, since it freezes at—40° and boils at 675°. For lower temperatures alcohol is used; and for high temperatures air thermometers are employed, in which changes of temperature are measured by the expansion or contraction of a known volume of air.

Thermometric Alarm, an instrument to release an alarm when a dangerous heat is reached in an apartment; a form of fire alarm.

Thermometric Analysis, in chemistry, a term applied to certain approximate methods of analysis, depending on the observation of the temperature when a phenomenon takes place, or of the changes of temperature accompanying chemical reactions.

Thermometric Ventilator, a chimney valve consisting of a circular disk accurately balanced on a spindle. On one side of the disk is an inverted siphon, open at one end and having a bulb at the other. The lower part of the siphon tube contains mercury, and the bulb is full of air. Any increase of temperature expands the air in the bulb, depresses the mercury and, causing it to rise in the other arm of the tube, opens the valve, thus allowing the air to pass.

Thermopylæ, a famous pass leading from Thessaly into Locris, and the only road by which an invading army can penetrate from Northern into Southern Greece. It lies S. of the present course of the river Spercheius, between Mount Œta and what was anciently an impassable morass bordering on the Maliac Gulf. In the pass are several hot springs, from which Thermopylæ probably received the first part of its name. Thermopylæ has won an eternal celebrity as the scene of the heroic death of Leonidas and his 300 Spartans in their attempt to stem the tide of Persian invasion (480 B. C.). Again in

279 B. C. Brennus, at the head of a Gallic host, succeeded, through the same treachery that had secured a victory to Xerxes, in forcing the united Greeks to withdraw from the pass.

Thermopylæ of America, a phrase applied to Fort Alamo, Tex.

Theseus, a mythical king of Athens and famous hero of antiquity, son of Ægeus by Æthra, the daughter of Pittheus of Troezen, in Peloponnesus, of whom many notable deeds are related, as the slaying of the Minotaur and the freeing of Athens from the tribute of seven youths and seven maidens annually sent to Crete to be devoured by that monster. As king of Athens he is reputed to have governed with mildness, instituted new laws, and made the government more democratic.

Thespis, a native of a village near Athens, who lived in 6th century B. C., reputed to be the inventor of tragedy and of masks always worn by Greek actors in performing. His first representation was in 535 B. C.

Thessalonians, Epistles to the, are the earliest existing writings of the Apostle Paul. Though the footnotes in the Authorized Version state that the Epistles were written from Athens, it is clear from a study of their contents and of the Acts, that they must have been written at Corinth; the first about the year 49, and the second in the following year. The genuineness of the Epistles has been assailed by Baur, but since Jowett's exhaustive reply, the majority of critics concede the Pauline authorship. The contents of the Epistles are more practical than doctrinal. The first was written after receiving Timothy's report of his visit to Thessalonica, and was congratulatory and encouraging. Paul's remarks on the second-coming in that Epistle were, however, misunderstood, and in the second Epistle he corrects the wrong inferences deduced, and adds cautions against designing persons who misrepresented his teaching.

Thessaly, the largest division of ancient Greece; lay S. of Macedonia and E. of Epirus; being separated from the latter by Mount Pindus, and from the former by the Cambunian Mountains; the Maliac Gulf and Mount Œta bounding it on the S. It is a vast plain shut in on every side by mountains; on the N. and W. by those already named, on the S. by Mount Othrys, and on the E. by Mounts Pelion and Ossa, the only opening being the Vale of Tempe in the N. E., between Ossa and Olympus. This plain is drained chiefly by the Peneus river (now Salambria) and its tributaries, and is the most fertile in all Greece. Thessaly was originally inhabited by so-called Pelasgians, who, however, were either expelled or reduced to slavery by Dorian immigrants from the more rugged region of Epirus about 1000 B. C. About 374 B. C. Jason, tyrant of Pheræ, was elected Tagus (chief-magistrate) of all Thessaly. The rule of Jason's successors became so unbearable that aid was sought from Philip of Macedon, who in 344 subjected the country to Macedonia. Thessaly remained subject to the Macedonian kings till the victory of Cynoscephalæ, in 197 B. C., brought it under the protection of Rome. Under the emperors Thessaly was united with Macedonia, but after Constantine it was a separate province. In A. D. 1204 with other portions of the Eastern Empire, it came under the dominion of the Venetians, and in 1355 was taken by the Turks. In 1881 Turkey agreed to cede, and Greece to accept, Thessaly S. of the ridge of mountains forming the watershed of the Salambria (the ancient Peneus), by much the largest and most fertile section of the province.

Thetis, in mythology, one of the sea deities, who was courted by Neptune and Jupiter. But when the gods were informed that the son she would bring forth must become greater than his father, they ceased their solicitations; and Peleus, the son of Æacus, was permitted to gain her hand.

Thief, in ordinary language, one who steals or is guilty of theft; one who takes the goods or personal property of another without his knowledge or consent, and without any intention of returning it; one who deprives another of property secretly or without open force as opposed to a robber who uses force or violence.

Thiers, Louis Adolphe, a French statesman; born in Marseilles, France,

April 16, 1797. In the government of Louis Philippe, Thiers held several offices, till (1840) he found himself at the head of the ministry for a few months, and then retired into private life. After the revolution of 1848 he was elected deputy to the Assembly, and voted for the presidency of Louis Napoleon, but was ever after one of his fiercest opponents; and at the coup d'etat (Dec. 2, 1851) he was arrested and banished. Returning to France in the following year, he remained in comparative retirement till 1863, when he was elected one of the deputies for Paris.

During the terrible crisis of 1870–1871 he came to the front as the one supreme man in France. After the fall of Paris he was returned to the National Assembly, and on Feb. 17, 1871, he was declared chief of the executive power. The first duty imposed on him as such was to assist in drawing up the treaty of peace, whereby France lost Alsace and Lorraine and agreed to pay an enormous indemnity; his second was to suppress the Communist insurrection, which broke out within three weeks of the signing of the treaty. This done, his next task was to free the soil as quickly as possible from the invaders by the payment of the ransom, which also was effected in an incredibly short space of time. The Assembly in August, 1871, prolonged his tenure of office and changed his title to that of President. In November, 1872, Thiers declared himself in favor of the republic as a definitive form of government for France, and thus to some extent brought about the crisis which resulted in his being deprived of the presidency. He died in 1877.

Thilly, Frank, an American educator; born in Cincinnati, O., Aug. 18, 1865. He was instructor in logic and history of philosophy at the Sage School of Philosophy, Cornell University, in 1892-1893. In the latter year he was made Professor of Philosophy at the University of Missouri. He is the author of "Liebniz's Controversy with Locke"; "An Introduction to Ethics," etc.

Thimble, a metallic cap or sheath used to protect the end of the finger in sewing. Seamstresses use a thimble having a rounded end with numerous small pits or indentations. Those used by tailors are open at the end. The manufacture of thimbles is very simple. Coin silver is mostly used, generally silver dollars, which are melted, and cast into solid ingots. These are rolled into the required thickness, and cut by a stamp into disks of any required size. A solid metal bar the size of the inside of the intended thimble, moved by powerful machinery up and down in a bottomless mold of the size of the outside of the thimble, bends the circular disks into the thimble shape as fast as they can be placed under the descending bar. The work of brightening, polishing, and decorating is done on a lathe.

Thirlwall, Connop, an English bishop and historian; born in Stepney, Middlesex, England, Jan. 11, 1797. For 34 years he labored with the utmost diligence in his diocese, building churches, parsonages, and schools, and augmenting poor livings (to the extent of $150,000 from his own pocket); and, though he wrote no great work, his 11 "Charges" remain an enduring monument of breadth of view and soundness of judgment in reference to all ecclesiastical controversies of one generation. He was appointed chairman of the Old Testament Revision Committee, and resigned his see in May, 1874, retiring to Bath, where he died July 27, 1875.

Thirlwall's massive understanding, vast learning, and fundamental breadth and fairness of mind were a combination of enormous value to the Church of England. Few men have left a more pleasing though unconscious monument of noble character than the beautiful series of letters to a young lady — the "Letters to a Friend," edited by Dean Stanley in 1881.

Thirst, a sensation resulting from a peculiar state of the system, but especially of the mucous membrane of the fauces, usually caused by an insufficient supply of liquid. In cases of extreme thirst there is a peculiar sense of clamminess in the mouth and pharynx, which, with the other disagreeable feelings, is almost immediately relieved by the introduction of liquid into the stomach, where it is ab-

sorbed by the veins. That the thirst is relieved by the absorption of the fluid, and not by its action as it passes over the mucous membrane, which seems to suffer most, is proved by the facts (1) that injection of liquids into the stomach through a tube (in cases of wounded œsophagus), and (2) the injection of thin fluids, as water, into the blood, remove the sensation of thirst.

Thirty Years' War (1618 to 1648), a war in Germany, at first a struggle between Roman Catholics and Protestants. Subsequently it became a struggle for political ascendency in Europe. On the one side were Austria, nearly all the Roman Catholic princes of Germany, and Spain; on the other side were, at different times, the Protestant powers and France. The occasion of this war was found in the fact that Germany had been distracted ever since the Reformation by the mutual jealousy of Catholics, Lutherans, and Calvinists. Certain concessions had been made to the Protestants of Bohemia by Rudolph II. (1609), but these were withdrawn by his successor Matthias in 1614, and four years afterward the Bohemian Protestants were in rebellion. Count Thurn at the head of the insurgents repeatedly routed the imperial troops, compelling them to retire from Bohemia, and (1619) invaded the archduchy of Austria. Matthias having died in 1619, he was succeeded by Ferdinand II., who was a rigid Catholic, but the Protestants elected as their king Frederick, Elector Palatine, who was a Protestant. Efforts at mediation having failed, the Catholic forces of Germany marched against Frederick, who, with an army of Bohemians, Moravians, and Hungarians, kept the field till Nov. 8, 1620, when he was totally routed at Weissenberg, near Prague, by Duke Maximilian of Bavaria. The Protestant cause was now crushed in Bohemia, and the people of that province suffered cruel persecution. The dominions of Frederick, the Palatinate of the Rhine included, were now conquered, the latter being occupied by Count Tilly, assisted by the Spaniards under Spinola. At the Diet of Ratisbon (March, 1623) Frederick was deprived of his territories, Duke Maximilian receiving the Palatinate. Ferdinand, whose succession to the throne of Bohemia was thus secured, had now a favorable opportunity of concluding a peace, but his continued intolerance toward the Protestants caused them to seek foreign assistance, and a new period of war began. Christian IV. of Denmark, induced partly by religious zeal and partly by the hope of an acquisition of territory, came to the aid of his German co-religionists (1624), and being joined by Mansfeld and Christian of Brunswick, advanced into Lower Saxony. There they were met by Wallenstein, Duke of Friedland, who in 1626 defeated Mansfeld at Dessau, while Tilly was also successful in driving Christian back to Denmark. In the peace of Lubeck which followed (May, 1629) Christian of Denmark received back all his occupied territory, and undertook not to meddle again in German affairs. After this second success, Ferdinand again roused his people by an edict which required restitution to the Roman Catholic Church of all church lands and property acquired by them since 1552.

To the assistance of the Protestants of Germany came Gustavus Adolphus, King of Sweden, who landed (1630) with a small army on the coast of Pomerania. Joined by numerous volunteers, and aided by French money, he advanced, and routed Tilly at Breitenfeld (or the battle of Leipsic, September, 1631), victoriously traversed the Main and the Rhine valleys, defeated Tilly again near the confluence of the Lech and the Danube (April, 1632), and entered Munich. Meanwhile the emperor sought the aid of Wallenstein, by whose ability and energy Gustavus was obliged to retire to Saxony, where he gained the great victory of Lutzen (November, 1632), but was himself mortally wounded in the battle. The war was now carried on by the Swedes under the chancellor Oxenstierna, till the rout of the Swedish forces at Nordlingen (September, 1634) again gave to the emperor the preponderating power in Germany. The Elector of Saxony, who had been an ally of Gustavus, now made peace at Prague (May, 1635), and within a few months the treaty was accepted

by many of the German princes. The Swedes, however, thought it to their interest to continue the war, while France resolved to take a more active part in the conflict. Thus the last stage of the war was a contest of France and Sweden against Austria, in which the Swedish generals gained various successes over the imperial forces, while the French armies fought with varied fortunes in West Germany and on the Rhine. Meanwhile the emperor had died (1637), and had been succeeded by his son, Ferdinand III. The struggle still continued till in 1646, the united armies of the French under the great generals Turenne and Conde, and the Swedes advanced through Suabia and Bavaria. The combined forces of Sweden, Bavaria, and France were then about to advance on Austria, when the news reached the armies that the peace of Westphalia (1648) was concluded, and that the long struggle was ended.

Thisbe, in classical legend, a Babylonish maiden beloved by Piramus. They lived in contiguous houses, and as their parents would not let them marry, they contrived to converse together through a hole in the garden wall. On one occasion they agreed to meet at Ninus's tomb, and Thisbe, who was first at the spot, hearing a lion roar, ran away in a fright, dropping her garment on the way. The lion seized the garment and tore it. When Piramus arrived and saw the garment, he concluded that a lion had eaten Thisbe, and he stabbed himself. Thisbe, returning to the tomb, saw Piramus dead, and killed herself also. The story is travestied in "The Midsummer Night's Dream," by Shakespeare.

STEMLESS THISTLE.

Thistle, the common name of prickly plants. There are numerous species, most of which are inhabitants of Europe. Some dozen species of thistle are common in the United States, spreading from New England to Florida; Canada thistle is one of the severest pests of the farmer.

Thistle, Order of the, a Scotch order of knighthood, sometimes called the Order of St. Andrew. It was instituted by James VII. (James II. of England), in 1687, when eight knights were nominated. It fell into abeyance during the reign of William and Mary, and was revived by Queen Anne in 1703. As at present constituted, the order consists of the British sovereign and knights to the number of 16.

STAR, COLLAR, AND ST. ANDREW OF THE ORDER OF THE THISTLE.

Thistle Crown, a gold coin of James VI. of Scotland (James I. of England), of the value of 97.3 cents. It bore on the obverse a rose, and on the reverse a thistle, both crowned.

Thistlewood Conspiracy, a conspiracy formed in London in 1820 to

assassinate the ministers of the crown at a cabinet dinner, and excite an insurrection in the city, so called from the name of its ringleader, Arthur Thistlewood, a profligate whom ill fortune had rendered desperate. The plot was discovered by a government spy, and the conspirators were seized in a garret in Cato street, Feb. 23, the day fixed on for the execution of the project. Thistlewood and four others were executed May 1, 1820.

Thoburn, James Mills, an American clergyman; born in St. Clairsville, O., March 7, 1836; engaged in missionary work in India in 1859. He was presiding elder at the India Conference in the United States in 1886–1888, and in the latter year was elected missionary bishop of India and Malaysia. He was author of several books along missionary lines.

Thomas, Arthur Lloyd, an American banker; born in Chicago, Ill., Aug. 22, 1851; was secretary of the Utah Treasury, and was supervisor of the census of Utah in 1880; governor of Utah in 1889–1893; and in January, 1898, became postmaster of Salt Lake City.

Thomas, Calvin, an American educator; born near Lapeer, Mich., Oct. 28, 1854; was instructor in the University of Michigan in 1878–1881; assistant professor there in 1881–1886, and full Professor of Germanic Languages and Literatures in 1886–1896, when he became Professor of German at Columbia University. His publications include "A Practical German Grammar"; "Goethe and the Conduct of Life," etc.

Thomas, Cyrus, an American archæologist; born in Kingsport, Tenn. July 27, 1825. He became Professor of Natural Science in the Southern Illinois Normal University in 1873; State entomologist of Illinois in 1875–1882. Besides reports, he wrote many scientific books.

Thomas, Edith Matilda, an American poet; born in Chatham, O., Aug. 12, 1854. She contributed to many periodicals, and published in book form: "The Inverted Torch"; "Fair Shadow Land"; etc.

Thomas, Frederick William, an American author; born in Charleston, S. C., in 1811. He was Professor of English Literature in the University of Alabama. He contributed much in prose and verse to periodicals, and published several books. He died in Washington, D. C., Sept. 30, 1866.

Thomas, George Henry, an American military officer; born in Southampton co., Va., July 31, 1816; was graduated at the United States Military Academy in 1836; took part in the Florida War in 1840–1842, and the war with Mexico in 1846–1848; participated in the Seminole campaign in 1849–1850; and served on frontier duty in California and Texas in 1850–1860. At the outbreak of the Civil War he was made a colonel of cavalry and took part in the operations in the Shenandoah valley in the summer of 1861, and later as commander of a division in the Army of the Ohio was actively engaged in the operations in Tennessee and Mississippi. Afterward, under General Rosecrans, as commander of a corps, saved the Union army from utter defeat at Chickamauga, and gained the nation's gratitude. In 1863, as commander of the Army of the Cumberland, he bore an important part in the battle of Missionary Ridge and in the Atlanta campaign under Sherman. In October, 1864, he was sent to Nashville to oppose the Confederates under Hood, whom he finally defeated before Nashville, Dec. 15, 1864. For his services in these operations he was promoted Major-General U. S. A. In 1868 was placed in command of 4th Military Division, comprising the territory of the Pacific and Alaska, and continued in this capacity till his death, in San Francisco, Cal., March 28, 1870.

Thomas, Isaiah, an American publisher; born in Boston, Mass., Jan. 19, 1749. He established and printed the "Massachusetts Spy," 1770–1801; imported and used the first font of music type; established the "Massachusetts Magazine" (1789–1796); printed noted editions of the Bible and Watts's "Psalms and Hymns." He died in Worcester, Mass., April 4, 1831.

Thomas, Jesse Burgess, an American clergyman; born in Edwardsville, Ill., July 29, 1832. He accepted the chair of Church history at

Newton Theological Institution in 1888. He is the author of "The Old Bible and the New Science"; "The Mould of Doctrine"; etc.

Thomas, John, an American military officer; born in Marshfield, Mass., in 1725; became colonel of provincials in 1759, and in 1760, in command of a regiment under General Amherst, was engaged in operations against the French at Lake Champlain and at Montreal. During the Revolutionary War he raised a regiment of volunteers and was appointed Brigadier-General; took part in the siege of Boston; forced the British to evacuate Dorchester; and participated in the Canadian campaign. He died in Chambly, Canada, June 2, 1776.

Thomas, John, an Anglo-American religious reformer; born in London, England, April 12, 1805; came to the United States in 1850; joined the Campbellite Baptists, which sect he left to found the Christadelphians; returned to England in 1860, and lectured extensively on the new sect, converting many. He was the author of many books. He died in Jersey City, N. J., March 5, 1871.

Thomas, John Robert, an American jurist; born in Mt. Vernon, Ill., Oct. 11, 1846. He was State attorney of Illinois for four years and held a seat in Congress in 1879–1889, serving as a member of the Committee on Naval Affairs. Owing to his interest in the new navy he was called the "father of the modern American navy." In 1897 he was made judge of the United States Court for the Indian Territory.

Thomas, John R., an American song writer; born in Newport, Wales, in 1830; came to the United States at an early age, taught music, and sang in opera and oratorio. His songs were highly popular. Among the best known are: "Some One to Love"; "'Tis but a Little Faded Flower"; "The Flag of the Free"; "The Mother's Prayer"; and "No Crown Without the Cross." He died in 1896.

Thomas, Joseph, an American lexicographer; born in Cayuga co., N. Y., Sept. 23, 1811. In 1851–1852 appeared his first book of "Etymology," followed by an edition of Oswald's "Etymological Dictionary." In 1854 he prepared "A New and Complete Gazetteer of the United States"; and in 1855 "A Complete Geographical Dictionary of the World." In 1864 appeared his comprehensive "Medical Dictionary"; and in 1870 his "Universal Pronouncing Dictionary of Biography and Mythology," which occupies a high place among books of reference. He died in Philadelphia, Pa., Dec. 24, 1891.

Thomas, Theodore, a German-American musician; born in Esens, Hanover, Germany, Oct. 1, 1835. He first played in public at the age of six. In 1845 his family removed to the United States, and for two years he played violin solos at concerts in New York. His first symphony concerts were given in 1864–1865, and extended (excepting from 1869 to 1872) till he left New York, in 1878, to take the direction of the College of Music at Cincinnati. He remained in Cincinnati till 1880, when he resigned this position and returned to New York. With brief intervals he was conductor of the Brooklyn Philharmonic Society 1862-91; of the N. Y. Philharmon. Soc. 1877-1891. He settled in Chicago, where, Dec., 1904, the Symphony Hall, built through his efforts, was opened. He died Jan. 4, 1905.

Thomas, Theodore Gaillard, an American physician; born in Charleston, S. C., Nov. 21, 1831. He was Professor of Gynæcology and Obstetrics at the College of Physicians and Surgeons, New York city, for many years. He was the author of "Diseases of Women" which has been translated into German, French, Spanish, Italian, and Chinese. D. 1903.

Thomas, William Davy, an American educator; born Jan. 5, 1844. He was made superintendent of the missions of the Presbyterian Church in the United States; became Professor of Mental and Moral Science at Gale College, and afterward its president.

Thomas, William Widgery, Jr., an American diplomatist; born in Portland, Me., Aug. 26, 1839; was graduated at Bowdoin College in 1860. During the 60's he became successive-

ly vice-consul-general at Constantinople; acting consul at Galatz, Moldavia; and consul at Gothenburg, Sweden. He was United States minister to Norway and Sweden in 1883–1885 and in 1889–1894; and was again appointed to that office in 1897.

Thomas, St., called Sydamus, or the twin, one of the 12 apostles of Jesus Christ. He is presumed to have been a native of Galilee. He is distinguished in sacred history by his disbelief of the resurrection of his master; on which Jesus vouchsafed to permit him to put his fingers into His wounds, and Thomas exclaimed, "My Lord and my God!" He is supposed to have suffered martyrdom in Coromandel, India, where there are still Christian churches which are called by his name.

Thompson, Almon Harris, an American geographer; born in Stodard, N. H., Sept. 24, 1839; became geographer of the United States Geological Survey in 1882. Died 1906.

Thompson, Augustus Charles, an American clergyman; born in Goshen, Conn., April 30, 1842. He was a delegate to the Mildmay Missionary Conference in 1878 and the London Missionary Conference in 1888. Died 1901.

Thompson, Charles Lemuel, an American clergyman; born in Allentown, Pa., Aug. 18, 1839. He was editor of "The Interior," Chicago, in 1877–1879. In 1888 he was elected Moderator of the Centennial General Assembly of the Presbyterian Church.

Thompson, Charles Miner, an American journalist; born in Montpelier, Vt., March 24, 1864; was graduated at Harvard College in 1886; was literary editor of the Boston "Advertiser" and later associate editor of the "Youth's Companion." He has written: "The Nimble Dollar"; "Life of Ethan Allen," etc.

Thompson, Denman, an American actor; born in Girard, Pa., in 1833; began his professional career as a dancer, Irish character and general utility man. Later he starred in the comedy "Joshua Whitcomb," a play of his own, which was afterward remodeled and presented under the title "The Old Homestead."

Thompson, Elizabeth, an American philanthropist; born in Lyndon, Vt., Feb. 21, 1821; was married to Thomas Thompson, a Boston millionaire, in 1845, and on his death in 1869 fell heir to the whole income of his immense estate. She gave large sums to the cause of temperance; founded the town of Long Mont, Kas., giving 640 acres of land and $300 to each colonist; and contributed largely to the purchase of the Vassar College telescope. She presented Frank B. Carpenter's painting of the "Signing of the Emancipation Proclamation by President Lincoln in the presence of his cabinet" to Congress. She died in Littleton, N. H., July 20, 1899.

Thompson, Hugh Miller, an American clergyman; born in County Londonderry, Ireland, June 5, 1830; was Professor of Church History at the Nashotah Theological Seminary and editor of the "American Churchman," Chicago, in 1860–1870. He was consecrated Bishop of Mississippi in 1887. Died Nov. 8, 1902.

Thompson, Henry Adams, an American educator; born in Stormstown, Pa., March 23, 1837; was Professor of Mathematics at Western College, Iowa, in 1861–1862, and of the same at Otterbein University in 1862–1867. He was president of the latter institution in 1872–1886. He was the Prohibition candidate for governor of Ohio in 1877, and was nominated for vice-president on the ticket with Neal Dow in 1880. He became an editor of the Sunday-school literature of the United Brethren Church in 1893, and editor-in-chief in 1897.

Thompson, (James) Maurice, an American author; born in Fairfield, Ind., Sept. 9, 1844. He was State geologist of Indiana, 1885–1889. He wrote nature studies. He published in book form: "Hoosier Mosaics," "The Witchery of Archery," "A Tallahassee Girl," "Alice of Old Vincennes," etc. He died Feb. 15, 1901.

Thompson, John Polk, an American inventor; born in Glasgow, Scotland, in 1838; came to the United States in 1848, and invented 14 distinct mechanical devices, each of which produced a radical improvement

in methods of carding, stop and let-off motions, and self-threading shuttles. He died in Olneyville, R. I., Sept. 16, 1899.

Thompson, Launt, an American sculptor; born in Abbeyleix, Ireland, Feb. 8, 1833. His productions include a bust entitled "Elaine"; "Morning Glory," a medallion; statues of Abraham Pierson at New Haven, Conn., and of Winfield Scott, at Washington, D. C.; portrait busts of William C. Bryant in the Metropolitan Museum, New York city, Edwin Booth as Hamlet, Samuel F. B. Morse, etc. He died in 1894.

Thompson, Richard Wigginton, an American lawyer; born in Culpeper co., Va., June 9, 1809. He was member of Congress from Indiana in 1841, and also in 1847. In 1877, he became Secretary of the Navy, but retired in 1881 to become chairman of the American Committee of the Panama Canal Company. His publications include: "The Papacy and the Civil Power"; "Recollections of Sixteen Presidents, From Washington to Lincoln," etc. He died in Terre Haute, Ind., Feb. 9, 1900.

Thompson, Robert Ellis, an American educator; born near Lurgan, Ireland, April 5, 1844. He was Professor of Latin and Mathematics in the University of Pennsylvania in 1868–1871, of Social Science there in 1871–1881, and of History and English in 1881–1892. He was editor of the "Pennsylvania Monthly" in 1870–1881, and of the "American Weekly" in 1881–1892. His publications include "Social Science and National Economy"; "Protection to Home Industry," etc.

Thompson, Vance, an American author; born in Cincinnati, O., April 17, 1863; was graduated at Princeton University in 1883; was the editor and founder of "M'lle New York," and wrote "The City of Torches"; "A Flash of Honor"; "Killing the Mandarin"; "The Carnival of Destiny," etc., besides a number of plays and pantomimes.

Thompson, Will L., an American song-writer; born in Beaver co., Pa., Nov. 7, 1847. His works include "Thompson's Class and Concert"; "Thompson's Popular Anthems"; about 100 popular songs, such as "Gathering Shells on the Sea Shore"; "Drifting with the Tide"; "Come Where the Lilies Bloom"; and contributions to almost every hymnal and gospel song collection published in the United States. His "Softly and Tenderly Jesus is Calling" had a world-wide publication. He died in 1909.

Thompson, William Oxley, an American educator; born in Cambridge, O., Nov. 5, 1855; was president of Miami University in Oxford, O., in 1891–1899; and on July 13, 1899, was chosen president of the Ohio State University.

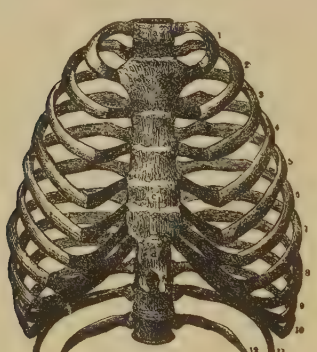
Thompson-Seton, Ernest, an American author and artist; born in South Shields, England, Aug. 14, 1860; lived in the backwoods of Canada in 1866–1870, and on the Western plains in 1882–1887; was educated at the Toronto Collegiate Institute and Royal Academy, London; became official naturalist to the government of Manitoba; studied art in Paris in 1890–1896; was one of the chief illustrators of the "Century Dictionary" and author and illustrator of "Wild Animals I Have Known," "The Biography of a Grizzly," "The Trail of the Sandhill Stag," "Wild Animal Play for Children," "Lives of the Hunted," etc., and became a popular lecturer on wild animal life. In December, 1901, his name was legally changed from Seton-Thompson to Thompson-Seton.

Thomson, Elihu, an American electrician; born in Manchester, England, March 29, 1853; came to the United States and subsequently secured more than 500 patents for inventions which included the Thomson method of electric welding. He was awarded the Grand Prix, in Paris, in 1889 for electrical inventions, received the decoration of Chevalier of the Legion of Honor, for electrical research, etc.

Thomson, William McClure, an American clergyman; born in Spring Dale, O., Dec. 31, 1806. In 1833 he went as missionary to Syria and Palestine, remaining till 1876. His chief work, "The Land and the Book," is an accepted authority on Palestine and Syria. He died in Denver, Col., April 8, 1894.

Thor, the son of Odin and Jord; in Northern mythology, the highest of the Æsir after Odin. He is the strongest of all the gods, and defends Asgard and Midgard against the Jotuns. His kingdom is called Thrudvangar; his palace, Bilskirnir, has 540 rooms, and is the largest in the world. He rides in a car drawn by two he-goats amid thunder and lightning.

Thoracic Regions, in anatomy, 14 regions into which the thorax in man is divided by imaginary straight



THORAX.

lines, longitudinal and transverse, so that the exact situation of any spot may be described.

Thorburn, Grant, pseudonym Lawrie Todd, an American author; born in Dalkeith, Scotland, Feb. 18, 1773; emigrated to America in 1794. His publications in book form include: "Forty Years' Residence in America"; "Men and Manners in Great Britain"; "Fifty Years' Reminiscences of New York." He died in New Haven, Conn., Jan. 21, 1863.

Thoreau, Henry David, an American author; born in Concord, Mass., July 12, 1817. In 1845 he built for himself a hut in a wood near Walden pond, Concord, Mass., and there for two years lived the life of a hermit. After quitting his solitude, Thoreau pursued his father's calling of pencil maker at Concord. Besides contributing to the "Dial" and other periodicals, he published "A Week on the Concord and Merrimac Rivers," and "Walden, or Life in the Woods." After his death appeared "Excursions in Field and Forest," "The Maine Woods," "Cape Cod," and "A Yankee in Canada." Thoreau was a friend and disciple of Emerson. He died in Concord, May 6, 1862.

Thorianite, a radio-active mineral discovered, 1905, in Ceylon.

Thorn, the sharp point of a branch which has proved abortive. That this is its origin is shown by the fact that sometimes trees which are thorny in their wild state, have their spines converted into branches when long cultivated in a garden, as is the case with the apple and the pear. A thorn differs from a prickle, which is so superficial that it comes away when the bark is peeled off, while in similar circumstances a thorn, being deep seated, remains. Sometimes thorns bear leaves, as in the white-thorn.

Thorn, Conference of, an effort to explain away the differences between Catholics and Protestants, with a view to reunion. The gathering was originated by Ladislaus IV. of Poland. It met in August, 1645, lapsed into disputation, and broke up in November.

COMMON THORN APPLE.

Thorn Apple, a genus of plants The common thorn apple is an annual plant, with smooth stem and leaves,

white flowers, and erect prickly capsules, a native of the East Indies, but now often met with in North America. It contains a peculiar alkaloid, daturine, which is practically identical in its action with atropine. The leaves and seeds are employed in medicine. The dried leaves have a faintly narcotic smell, and an unpleasant bitter taste, the seeds, which are of a black color, are still more poisonous. A variety with pale violet flowers and purplish violet stem is frequently cultivated in gardens as an ornamental plant.

Thorne, Joseph, an American inventor; born in Marlboro, N. Y., Feb. 17, 1826; served through the Mexican War; became an engineer and was associated with Elias Howe while he was perfecting his sewing machine. Afterward he was connected with the Singer Company; established and operated a factory in Scotland; invented a typewriter, a sewing machine, a typesetting and distributing machine, etc. He died in Sing Sing, N. Y., May 4, 1897.

Thorntail, in ornithology, a popular name for the species of two genera of humming birds. The tail feathers in the first genus are much elongated and sharply pointed, and the tarsi are covered with a tuft of feathers. Discura, one of the species, has a racket at the end of the tail.

Thornton, Matthew, an American statesman; born in Ireland about 1714; came to America in 1717; took an active part in the overthrow of the royal government in New Hampshire; was president of the provincial convention of 1775 and speaker of the assembly in 1776; and served as judge of the Superior Court in 1776–1782. He was a signer of the Declaration of Independence; a member of the General Court of Massachusetts; and in 1785 was appointed a member of the General Council. He died in Newburyport, Mass., June 24, 1803.

Thorpe, Francis Newton, an American author; born in Swampscott, Mass., April 16, 1857. He was the author of "The Government of the People of the United States"; "The Story of the Constitution"; "The Constitution of the United States with Bibliography," etc.

Thorpe, Rose Hartwick, an American author; born in Mishawaka, Ind., July 18, 1850. She became widely known because of her poem "Curfew Must Not Ring Tonight." Her other publications include "Fred's Dark Days"; "The Chester Girls"; "Ringing Ballads," etc.

Thorwaldsen, Bertel, a Danish sculptor; born at Copenhagen, Nov. 19, 1770; died there, March 24, 1844. A scholarship enabled him to study at Rome, and along the classical lines of Greek art, he became the most renowned sculptor of his age. His chief works are in the Thorwaldsen Museum.

Thothmes III., an Egyptian king of the 18th dynasty; lived about 1600 B. C. and reigned for 54 years. He was famous for his conquests and carved upon the temple walls of Karnak the names of 625 vanquished cities and nations.

Thousand Islands, a group of small islands numbering about 1,800 in the St. Lawrence immediately below Lake Ontario. They belong partly to Canada and partly to the State of New York, and have become a popular summer resort.

Thrace, the ancient name of the Turkish province of Rumelia. It is said to have been peopled by a tribe of Pelasgians. The authentic history of the country commences with the formation of the Greek settlements in the 6th century, B. C. Of these, the principal were Byzantium (675 B. C.), Selymbria, Abdera (560 B. C.), Mesembria, etc.; but their want of union enabled the Thracian chiefs of the interior to preserve their independence. In 513 B. C., Darius, King of Persia, marched through Thrace on his way to punish the European Scythians, and on his return, left Megabazus, with 80,000 men, to subdue the country. In this he partially succeeded, but new disturbances and complications arose between the Persians and Greeks which resulted (480 B. C.) in the famous expedition of Xerxes. The rise of the Macedonian kingdom, under Philip II. (359 B. C.), destroyed the independence of a great part of Thrace. Under the government of Lysimachus, Thracia was incorporated with Macedonia, and became absorbed. On the fall of the Macedonian king-

dom (168 B. C.), it passed into the hands of the Romans, and subsequently shared the vicissitudes of the Roman empire. In 305, it was overrun by Alaric, and in 447, by Attila. In 1353, Amurath obtained possession of all its fortresses, except Constantinople, and it has ever since remained in the hands of the Turks.

Thrasybulus, an Athenian general, who in the time of the Thirty Tyrants, took refuge at Thebes. Having gained some followers, he marched against the usurpers and expelled them. In commemoration of this triumph, a yearly festival was instituted at Athens. Thrasybulus wisely procured the passing of a general amnesty, which decreed that no one but the principals should be punished for the atrocities which had been committed. He subsequently displayed great valor in Thrace, and slew the Lacedæmonian general with his own hand. Thrasybulus fell in a battle with the Aspendians, who were the allies of Sparta, 394 B. C.

Thread, a compound cord consisting of two or more single yarns, doubled and twisted. In the trade it is divided into lace, stocking, and sewing thread. Any fibrous substance, such as cotton or flax, when it is to be woven, is first spun into yarn, which is sometimes called thread. Sewing thread, however, always consists of at least two or more yarns twisted together. In the spinning of yarn the process is the same whether it is to be woven into cloth or twisted into thread. Beginning with the spun yarn the stages in the process of manufacturing a six-cord cotton thread (a very common kind) are: (1) The yarn is doubled and wound on bobbins; (2) the double yarn is then twisted into a two-ply thread; (3) the thread is next rewound on bobbins for the second twist; (4) the thread is twisted a second time on the twisting frame, three two-ply threads being thus formed into a six-cord thread; (5) the thread is rewound on large bobbins, from which it is reeled into hanks for bleaching or dyeing; (6) the bleached or dyed thread is next rewound on bobbins for spooling; (7) spooling — i. e., winding the thread on small bobbins called spools or pirns for use. The spindles of the spooling machine run at a speed of 7,000 revolutions per minute.

Cotton was first used in the manufacture of sewing thread at Pawtucket, R. I., by Samuel Salter in 1794. Flax had always been used everywhere, but as Mrs. Salter was spinning cotton, she noticed the fineness of the fiber, and at once conceived that it would make smooth thread. The idea was at once put into practice.

Threatening, menacing, especially with ulterior designs. By the common law of England to threaten bodily hurt is a civil injury against the person, and pecuniary damages can be recovered for interruption of a man's business through fear of such threats. Any person accusing or threatening to accuse any other person of infamous or other crimes, with the view to extort gain, is guilty of felony. Similar provisions are made against sending or delivering any letter threatening any house, ship, etc., or to wound or maim cattle; sending or delivering any threatening letter demanding any property or valuable. Any person who maliciously sends or delivers, knowing the contents, any letter threatening to kill or murder any person, or to burn or destroy any coal breaker, house, barn, or other building, or any rick or stack of grain or other agricultural produce, in most States is considered guilty of a misdemeanor, and on conviction is liable to fine and imprisonment.

Three Hours' Agony, or **Three Hours' Service,** a devotion practised on Good Friday, from noon till three o'clock, in commemoration of the Passion. It was introduced by Father Messia, S. J., of Lima, about 1730, and reached Rome in 1738. It was introduced into the English Church about 1865, and was rendered legal by the Act of Uniformity Amendment Act (1872).

Three Kings, the name given in Christian legend to the Magi, who came from the East to adore the Infant Jesus (Matt. ii: 1–12). They were probably called kings from Psalm lxxii: 10, which verse is used as an antiphon in the office for Epiphany. According to tradition, their names were Gaspar, Melchoir, and Balthaz-

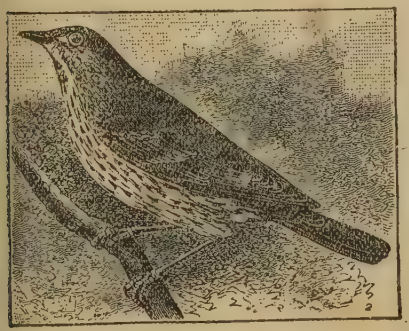
ar, and on their return to the East they received baptism.

Thrift, in botany, a genus of plants, called also seapink; leaves densely fascicled, linear, with impressed points both above and below; inflorescence a scape, bearing a head of rose-colored, pink, or white flowers, surrounded by a brown, membranous, three-leaved involucre, and intermixed with scales. It is found on seacoasts and on mountains, and is well adapted for edging in gardens.

Throat, the anterior part of the neck of an animal, in which are the œsophagus and windpipe, or the passages for the food and breath.

Throne, the chair used on occasions of state by a king, emperor, or Pope. It is usually raised, and often surmounted with a canopy. The term is also applied to the seat of a bishop in his cathedral church, and is a common metaphor to express sovereign power.

Throop Polytechnic Institute, a co-educational, non-sectarian institution in Pasadena, Cal.; founded in 1891.



SONG THRUSH.

Thrush, in ornithology, the name for any of the Turdidæ. They are universally distributed, and are very highly organized birds, and it is for this reason, perhaps, as well as on account of their omnivorous diet, that they have been able to establish themselves on a number of remote islands. They differ widely in their habits and in their habitats; some are gregarious, others live solitarily or in pairs. The wood thrush is abundant in North America in summer, as far N. as Hudson Bay, retiring to tropical and subtropical regions in winter. It is rather smaller than the song thrush, and very similar to it. Several other species are found in North America.

Thrush, in veterinary surgery, an affection of the horse's frog, appearing as a severe and acute inflammation, which usually proceeds to ulceration, and which is accompanied by a fetid discharge. It is most frequently seen in horses of unsound constitution, and especially appears in stables where the drainage is deficient, and uncleanliness prevails.

Thucydides, historian of the Peloponnesian war; born in the deme Halimus most probably in 471 B. C.; was the son of Olorus and Hegesipyle, and was related to Miltiades and Cimon. It is probable that his literary model was Antiphon, and that he was influenced in his views on philosophy by Anaxagoras. Certain it is that, Athenian as he was, of good family, and resident in the most cultivated community in Greece, he must have known Sophocles, Euripides, Aristophanes, Phidias, Protagoras, Gorgias, and possibly Herodotus and Æschylus. He was further possessed, either by inheritance or by acquisition through marriage, of gold mines in that part of Thrace lying opposite the island of Thasos. We know from himself that he was one of the sufferers from the terrible plague of Athens, and also one of the few who recovered. He held military command, and he had under him an Athenian squadron of seven ships at Thasos, 424 B. C., when he failed to relieve Amphipolis, which fell into the hands of Brasidas. Condemned to death as a traitor, he took refuge in exile and retired to his Thracian estates. His exile enabled him as he tells us, to associate with the Peloponnesians quite as much as with the Athenians; and he probably spent some time also in Sicily, as we may infer from his minute descriptions of Syracuse and its neighborhood. According to his own account, he lived in exile 20 years, and probably returned to Athens after the destruction

of its walls, in 404. How or when he died is unknown; but he did not live long enough to revise book viii. or to bring his history down to the end of the war.

If Herodotus was "the father of history," Thucydides was the first of critical historians. There is hardly a literary production of which posterity has entertained a more uniformly favorable estimate than the history of Thucydides. This high distinction he owes to his undeviating fidelity and impartiality as a narrator; to the masterly concentration of his work, in which he is content to give in a few simple yet vivid expressions the facts which it must have often taken him weeks or even months to collect, sift, and decide upon; to the sagacity of his political and moral observations, in which he shows the keenest insight into the springs of human action and the mental nature of man; and to the unrivaled descriptive power exemplified in his account of the plague of Athens, and of the Athenian expedition to Sicily.

Thug, or **Thag,** the name given in the N. provinces of India to a member of a fraternity, who looked on murder as the sole means of staying the wrath of the goddess Kali, and derived their principal means of support from the plunder of their victims. In old times, according to Hindu mythology, Kali made war on a race of giants, from every drop of whose blood sprang a demon. These demons multiplied, and at last the goddess created two men to whom she gave handkerchiefs, with which they strangled the infernal beings. There is ground for believing that the murderous sect of thugs is not yet extinct in India. The term "thug" is frequently applied in America to persons of brutal and criminal habits.

Thulstrup, Thure de, an American artist; born in Sweden, in 1848; was first lieutenant and captain in the Franco-Prussian War; took part in the campaigns of the Loire and the East; participated in both battles of Orleans; and engaged in the street fights with the Communists in Paris. He came to the United States in 1872; began his artistic career on the New York "Graphic" in 1873; was connected with the Frank Leslie publishing house in 1876–1880, and in the latter year went to the Harpers. He became widely known as a book and magazine illustrator, especially on military and historical subjects.

Thumb-screw, a former instrument of torture for compressing the thumbs. It was employed in various countries, Scotland in particular; called also thumbikins or thumbkins.

Thunder, the violent report which follows a flash of lightning. It commences the same moment as the flash; but, as the sound travels only at the rate of about 1,100 feet a second, while light does so at the rate of 190,000 miles, the flash of the lightning is the first to be perceived, and thus a means is afforded of calculating the distance of the lightning. The noise of the thunder arises from the disturbance produced in the air by the electric discharge, but why the sound should be so prolonged has been differently explained. The old hypothesis was that the sound was echoed from every precipice, from every building, and from every cloud in the sky. Another is that the lightning itself is a series of discharges, each producing a particular sound according to the distance at which it commences, and the varying densities of the portions of air which it traverses before reaching the ear. A third conjecture is that the noise arises from the zigzag movement of the electric fluid, the air at each salient angle being at its maximum compression.

Thunder Bird, an imaginary bird occurring in the mythology of races of low culture, and personifying thunder or its cause. Among the Caribs, Brazilians, Harvey Islanders, and Karens, Bechuanas, and Basutos, there are legends of a flapping or flashing thunder bird, which seem to translate into myth the thought of thunder and lightning descending from the upper regions of the air, the home of the eagle and the vulture.

Thundering Legion, a Roman legion containing some Christians, which (A. D. 174) fought under Marcus Antoninus against the Marcomanni. The Roman army was shut up in a defile and ready to perish with thirst, when a thunderstorm with heavy rain

relieved them of their distress, and so terrified the enemy that a complete victory was gained. The Christians attributed the deliverance to the prayer which they had just before presented, and considered it miraculous. The heathen also considered the interposition supernatural, but ascribed it to Jupiter, Mercury, or to the power of magic. Also a legion composed of Christian soldiers raised in the Thebais, and led by St. Maurice. The name existed long before it was applied to either of these two legions.

Thurman, Allen Granbery, an American jurist; born in Lynchburg, Va., Nov. 13, 1813; elected to Congress in 1844; chosen judge of the Supreme Court of Ohio in 1851; and was elected United States Senator in 1869 and 1874, where he became leader of the Democratic side. While in Congress he drafted and secured the adoption of the "Thurman Act"; supported the "Bland-Allison Act"; took part in framing the bill providing for the Electoral Commission; and was a member of the commission and a warm defender of its constitutional authority. He served also on the International Monetary Commission in Paris in 1881; was an unsuccessful candidate for the nomination for the vice-presidency in 1876, 1880, and 1884; and in 1888 when again presented for that office was nominated by acclamation, but not elected. He was popularly known as "The Old Roman." He died in Columbus, O., Dec. 12, 1895.

Thursby, Emma, an American concert singer; born in Brooklyn, N. Y., Nov. 17, 1857; studied under Lamperti in Milan, and under Madame Rudersdorff; made a tour of the United States and Canada in 1875 and in England and France in 1878–1879, and was engaged as prima donna in the company of Maurice Strakosch in 1880–1881.

Thursday, the fifth day of the week. The word was originally Thor's day, i. e., the day of Thor, the god of thunder. The Romans similarly called the day dies Jovis = the day of Jove or Jupiter, the god corresponding to the Scandinavian Thor.

Thurston, John Mellen, an American lawyer; born in Montpelier, Vt., Aug. 21, 1847; was United States Senator from Nebraska in 1895–1901, and in 1897 rose to special prominence because of his speeches in the Senate advocating prompt intervention on behalf of Cuba.

Thurston, Robert Henry, an American educator; born in Providence, R. I., Oct. 25, 1839; Assistant Professor of Natural Philosophy at the United States Naval Academy in 1865–1871; Professor of Mechanical Engineering at Stevens Institute of Technology in 1875–1885; and in 1885 was made director of Sibley College at Cornell University. He was also president of the American Society of Mechanical Engineers; United States Commissioner to the Vienna Exposition in 1873; and the inventor of several testing machines, engine governors and other devices. His publications include "Friction and Lubrication," "Materials of Engineering," "History of the Steam Engine," "Manual of the Steam Boiler," about 300 professional and scientific papers, etc. He died in 1903.

Thwaites, Reuben Gold, an American historian; born in Dorchester, Mass., May 15, 1853. He took the post-graduate studies at Yale University in 1874–1875; was managing editor of the "Wisconsin State Journal," Madison, in 1876–1886. In the latter year he became secretary of the State Historical Society of Wisconsin. His publications include "The Story of Wisconsin"; "The Colonies 1492–1750"; etc.

Thwing, Charles Burton, an American educator; born in Theresa, N. Y., March 4, 1860; was graduated at the Northwestern University in 1888; studied at the University of Bonn in 1893–1894. In 1896, he became Professor of Physics at Knox College. His publications include "An Elementary Physics"; "Color Photography by Lippman's Process"; etc.

Thwing, Charles Franklin, an American educator; born in New Sharon, Me., Nov. 9, 1853; was graduated at Harvard University in 1876, and at Andover Theological Seminary in 1879; pastor of Congregational churches in 1879–1890. In the latter year he accepted the presidency of

the Western Reserve University and Adelbert College. He is the author of "American Colleges: Their Students and Work"; "God in His World"; etc.

Tiara, the head covering of the ancient Persians; the crown of the ancient Persian kings. These alone had the privilege of wearing the tiara erect; the nobility and priests wore it depressed, or turned down on the fore side. Its form is described variously by different authors, so that it must have varied at different periods. According to Xenophon it was encompassed with the diadem, at least on ceremonial occasions. Also the triple crown worn by the Pope on certain occasions as a sign of his temporal power, of which it is a badge, as the keys are of his spiritual jurisdiction. In its present form the tiara consists of a high cap of cloth of gold, encircled by three coronets, and surmounted by a mound and cross of gold; on each side is a pendant, embroidered and fringed at the end, and covered with crosses of gold. The tiara is placed on the Pope's head at his coronation by the second cardinal deacon in the loggia of St. Peter's, with the words: "Receive the tiara adorned with three crowns, and know that thou art Father of princes and kings, Ruler of the World, and Vicar of our Saviour Jesus Christ." Also a crown, a diadem.

Tibballs, William Huntington, an American educator; born in Union, N. J., Dec. 22, 1848; was graduated at Oberlin College in 1875; Professor of Philosophy and Literature in Parks College for six years; held the same chair at Salt Lake College for three years; and was president of the Utah State Christian Endeavor Union in 1897–1898. He conducted extensive mining operations, and contributed to literary and educational magazines.

Tiber, the chief river of Central Italy, and the most famous in the peninsula. It rises in a dell of the Tuscan Apennines. Its course till it reaches Perugia is S. S. E.; thence, as far as Rome, it pursues, along an irregular zigzag line, a S. direction; but when it enters the plain of the Campagna it curves S. S. W., and enters the Mediterranean by two branches, which enclose the Isola Sacra, or Sacred Isle. Of these the N., the Fiumicino, alone is navigable; the Fiumara is silted up with sand. The entire course of the river is about 260 miles — only 145 direct from source to sea. It is navigable for boats of 50 tons to the confluence of the Nera, 100 miles from its mouth, and small steamers ascend to within 7 miles of that point. The Tiber is supplied mainly by turbid mountain torrents, whence its liability to sudden overflowing of its banks; even the oldest Roman myth, that of Romulus, being inseparably associated with an inundation. Its waters, too, are still discolored with yellow mud, as when Virgil described it.

Tiberius, Claudius Nero Cæsar, a Roman emperor; born Nov. 16, 42 B. C.; was the son of Tiberius Claudius Nero and Livia Drusilla, who became the wife of Octavianus Cæsar in 38 B. C. Tiberius and his brother Drusus were brought up in the household of their stepfather, who from the year 27 B. C. was the Emperor Augustus. Tiberius was adopted by Augustus as his successor in A. D. 4. In the same year he led an army into Germany, marched to the Elbe, and defeated the Sigambri, Bructeri, and Cherusci. The suppression of a revolt in Pannonia and Dalmatia procured for him the honor of a third triumph. He was now sent once more against the Germans. Accompanied by the young Germanicus, he crossed the Rhine, and during the years A. D. 11 and 12 traversed the countries E. of that river. On the death of Augustus, in 14, Tiberius became emperor. He was in his 55th year, and, though beloved by none, he was much respected for the dignity of his demeanor and the reputed severity of his virtue. For some years he affected to take no active part in public affairs, while he gradually destroyed the last remnants of the ancient republic, abolishing the "comitia," and transferring the election of public officers to the subservient senate.

After the death of Germanicus in 19, not without suspicion of poisoning, Tiberius retired to the island of Capreæ to enjoy seclusion, leaving to Ælius Sejanus, commander of the Prætorian guards, the direction of

public affairs. Blinded by the misrepresentations of Sejanus, he agreed to every measure which the latter felt to be conducive to his own ambition, and a long and uniform series of cruelties followed. Awakened at last to the ambitious schemes of his favorite, Tiberius ordered the senate to condemn Sejanus, and the latter, with his family and friends, was put to death in 31. Some time after this Tiberius took up his residence at Misenum, where, as at Capreæ, he plunged himself into the most disgusting debauchery. On March 16, A. D. 37, he fell into a lethargy, and being believed to be dead, Caligula was proclaimed emperor. Tiberius, however, recovered, but he was suffocated in his bed by Macro, to save himself and the young emperor.

Tiberius Constantine, called also Tiberius II., one of the most virtuous emperors of Constantinople, was a native of Thrace, and was brought up at the court of Justinian. He succeeded to the throne in 578, and having suppressed the conspiracy of Sophia, widow of his predecessor, reigned unchallenged till his death, in 582.

Tibet, a dependency of the Chinese Empire, in Central Asia, between China and India; area (1911) 463,200 square miles; pop. about 6,500,000. Tibet is enclosed by the Kuenlun and the Himalaya Mountains. These chains run E. from a mountain knot at the S. extremity of the Pamir highland, and continue to diverge from each other till they reach the meridian of Lhasa, when they drew slightly nearer to the E. and S. E., where Tibet is bounded by ranges which separate it from China and Indo-China.

Tibet is the loftiest region of such extent on the globe. Its table-lands vary in height from 17,000 to 10,000 feet. It has been estimated that their average height is that of the summit of Mont Blanc. The table-lands are loftiest in the W. and N., whence they slope gradually to the S. and E. Bonvalot certified to the existence of volcanoes. The mountain girdle which surrounds Tibet has made it an obstacle across which conquerors from Mongolia could not enter India without making a long detour. Another consequence of these barriers has been that Tibet has remained to the present day the region of the globe least known to geographers.

Tibet lies in the latitudes of Delhi, Cairo, Algiers, and Naples, but its inland position and elevation give it a cold, dry, and extreme climate. On the table-lands at an elevation of 14,000 feet the thermometer in May sinks to 7° F. below zero, and over the whole country an arctic winter prevails for five or six months. There is a very short but excessively hot summer, more especially in the valleys of the Indus and Sanpo, where the high temperature is more oppressive to Europeans than that of the Indian plains. The N. and W. table-lands are without trees. They abound in steppes in which pasture herds of wild animals — yaks, horses, asses, goats, antelopes, etc. The pastures of the S. table-lands supply food to the flocks and herds of a large nomad population. Agriculture is confined chiefly to the valleys of the Indus and Sanpo, the grain chiefly grown being barley; the kitchen herbs and fruits of Europe are also cultivated. Irrigation and terrace cultivation are necessary to secure even scanty crops.

The mineral products of Tibet are of high value, and include gold, silver, iron, copper, zinc, mercury, cobalt, borax, salt, sulphur, etc., but few mines are yet developed.

The Tibetans are good blacksmiths and cutlers; their chief industrial occupation, however, is the preparation of woolen cloth. They are active traders, and large caravans, in which yaks and sheep are the beasts of burden, are constantly traversing the country on their way to the great fairs in Tibet, and the entrepots of the surrounding countries. At one time there was a busy commerce with India, but since Tibet became a Chinese dependency the passes have been closed. In 1894, Yatung on the frontier of India was opened by treaty as a trade mart and the Chinese and Indian governments each stationed an official at that post.

The Tibetans are a Mongolic race, much more closely allied to the Burmese than to the Chinese or Mongols proper. They are broad-shouldered and muscular, and have Mongol features, but not in an exaggerated form.

They are said to be intelligent, but without initiative. The Tibetans by race people nearly the whole of Tibet. A few nomads, Mongols and Turkish tribes, have penetrated into the N. steppes, and Chinese in large numbers have colonized the S. E. In Tibet polyandry is practised, the husbands of one wife being generally brothers. This form of marriage is almost universal among the poor. The rich are polygamists. Both systems check population. In Little Tibet, where monogamy has penetrated from the W. population increases rapidly.

There exist in Tibet two religions: (1) the Bon or Bon-Pa creed, which is a development of Mongol Shamanism, and is the native religion; (2) Lamaism, a form of the Buddhism introduced from India, and which in the Gelugpa sect constitutes the established church. Presumably at the head of the government is the Amban or Imperial Minister Resident at Lhasa, representing the Chinese government. Under him are jongpons and sub-jongpons administering the 53 jongs or prefectines and the 123 sub-jongs into which the four provinces of Tibet are sub-divided. Each jong has two jongpons equal in rank; one a lama or priest and the other a layman. The recognized head of the Lama theocracy, the virtual ruling power of Tibet, is the Grand Lama, usually a youth, supposed to be the reincarnated Buddha. The rule of the Lama theocracy dates from Kublai Khan establishing the Grand Lama of the Sakya sect as head of the Church and State in 1270. The office was confirmed, in 1650, by the Chinese, who in 1720 drove out the invading Sungars, and established a suzerainty. Commercial relations between India and Tibet, established in 1774, were interrupted by the Gurkha invasion of 1790, when the Chinese closed the passes between Tibet and India. In 1894 commercial relations were partially resumed, but violations of the Sikkim Treaty, refusals to negotiate with the Indian government, and intrigues with Russia to abolish the Chinese surzerainty, led in 1903-4 to a British expedition which reached Lhasa after strenuous opposition, and concluded a new treaty, opening up Tibet to modern commerce.

Tibing. See Gibing.

Tibullus, Albius, a Roman elegiac poet; born presumably in Gabii, about 54 B. C. While still a youth he acquired the friendship of the orator, poet, and statesman, M. Valerius Messala, head of a literary coterie only less attractive than that of Mæcenas. As literature was a direct passport to office under government, the already marked poetic gifts of Tibullus procured him a place on the staff of Messala commissioned by Augustus, 30 B. C., to crush a revolt in Aquitania. In this campaign the poet displayed capacity enough to win him distinction and decorations, but these could not countervail his repugnance to a soldier's life. Accordingly the close of the war found him dividing his time between the society of Rome and the retirement of Pedum at the base of the Tusculan and Sabine hills.

Tibullus died in 19 B. C., immediately after Virgil, universally deplored in Rome, and years afterward the subject of a magnificent elegy by Ovid.

Tic Douloureux, a painful affection of a facial nerve, a species of neuralgia. It is characterized by acute pain, attended with convulsive twitchings of the muscles, and continuing from a few minutes to several hours. It occurs on one side of the face, and may be caused by a diseased tooth, by inflammation in the ear passage, by exposure to cold, by dyspepsia, etc.

Tick, a popular name for any individual of the family Ixodidæ. They abound in almost all parts of the world, but chiefly in warm countries. Many of them live in woods, on the branches of trees, but ready to attach themselves to animals, which sometimes suffer greatly from their attacks. The quantity of blood drawn from their hosts by these little pests is by no means inconsiderable, for their skin is so distensible that the gorged parasite increases to many times its original bulk. Though generally confined to some particular species or group of animals, ticks occasionally attack man.

Ticknor, Caroline, an American author; born in Boston, Mass. She wrote stories and articles published in

various magazines; was author of "A Hypocritical Romance and Other Stories," "Miss Belladonna, a Child of Today," and was one of the editors of "The International Library of Famous Literature," "Masterpieces of the World's Literature," and "The World's Great Orations."

Ticknor, George, an American historian; born in Boston, Mass., Aug. 1, 1791. He was graduated at Dartmouth College in 1807. In 1820 he was appointed Professor of Modern Languages and Literature in Harvard University. In 1835 he resigned his professorship, and for the next three years traveled in Europe with his family. In 1849 he published a "History of Spanish Literature," corrected and enlarged editions being subsequently published. It was at once recognized by scholars as a work of value, and has been translated into Spanish and German. After some works of minor interest he produced in 1863 "The Life of William Hickling Prescott," the historian, with whom he had maintained a close friendship. He died in Boston, Jan. 26, 1871.

Ticonderoga, a village in Essex co., N. Y.; on Lake Champlain. Ticonderoga figured prominently during the Colonial and Revolutionary periods. In 1755 the French erected a fort here and named it Carrillon. Two years later Montcalm started from this place with 9,000 men and captured Fort William Henry on Lake George. In 1758 General Abercrombie endeavored to take the French fort, and was repulsed after losing 2,000 men; but in 1759 it fell into the hands of General Amherst together with Crown Point. Both were then enlarged and strengthened at a heavy expense. In 1775 the works were taken by Ethan Allen while weakly garrisoned. Two years later the fort surrendered to General Burgoyne, and after being dismantled was abandoned.

Ticunas Poison, a poison used for smearing arrows by the Ticunas and other Indian tribes living near the Amazon. When given to animals it produces strong convulsions lasting for hours. It probably contains picrotoxin, like other poisons used for the same purpose, but it has not been accurately investigated.

Tidal Motor, a motive power receiving its energy from the action of tidal waters.

Tide, a regular periodic oscillation to which the surface of the sea at any place is subject. The oscillation takes place about twice a day, the periodic time being, on an average, about 12 hours and 26 minutes. Consequently if high tide occurs at noon one day, it will occur next day some 50 minutes later. This is precisely the interval of time which elapses between two successive meridian passages of the moon; and that there must be some connection between the tides and our satellite was early recognized by astronomers. The explanation, however, was lacking till Newton proved them to be a necessary consequence of the law of gravitation. The phenomenon of the tide is, indeed, a case of perturbations, of exactly the same nature as the irregularities which the action of the sun produces on the motions of the moon. If we compare the attraction of the moon on a particle of the earth's surface with the attraction exerted on the earth as a whole, we readily see that, according as the particle is on the nearer or further side of the earth, the former attraction is greater or less than the latter; and it is to this difference of attraction, to which the waters yield, that the whole phenomenon of tide is due. The nearer waters are driven toward the moon, the further waters away from it. If the earth were spherical and uniformly covered with water, the tendency would be to make the water arrange itself in the form of a spheroid with the longer axis pointing toward the moon; and did the earth always present the same face to the moon, this would be rigorously the case.

Such is the equilibrium theory of tides, as originally given by Newton.

More recently Young and Airy have approached the question as one of wave motion, basing their theory on the motion of waves in canals. Till now we have been regarding the moon as the sole tide-producing agent, but it is evident that the sun must have a similar action, though not so marked because of its much greater distance. It was proved by Newton that the disturbing forces exerted by two bodies

on the same particle are directly as their masses, and inversely as the cubes of their distances; hence the ratio of the disturbing force exerted by the sun to that exerted by the moon 7:16. The principal tidal wave is that caused by the moon, but on it must be superposed that due to the sun. When the sun and moon are in syzygy, at times of new and full moon, their tidal waves will be superposed crest on crest, and the effect will be what is called a spring tide. When they are in quadrature, trough will coincide with crest, the lunar tide will be partially neutralized by the solar tide, and the result will be the so-called neap tide. The average spring tide will be to the average neap tide as $16 + 7 : 16 - 7 = 23 : 9$.

The attempt to establish a complete theory from abstract principles has proved a failure; and the only true method by which to get an insight into the particular laws which govern tidal action at any given place is continued observation. By means of Lord Kelvin's tide gauge a graphical representation of the tidal oscillation at any place can be easily obtained; and by harmonic analysis of the curve, the constituent factors may be easily discovered, and the comparative effects of their several causes estimated. One efficient cause in retarding tides has not been mentioned, namely, fluid friction, which, as first noticed by Kant, must act as a continual brake to the earth in its rotation; and this gradual slackening in the earth's speed of rotation must go on till the day is of the same length as the lunar month, when matters will be as required in the equilibrium theory given above.

Tiedeman, Christopher Gustavus, an American writer on law; born in Charleston, S. C., July 16, 1857; was graduated at the College of Charleston in 1876; and at the Columbia Law School in 1879; was Professor of Law in the University of Missouri for 10 years and held the same chair in New York University for six years. He was author of "The Law of Real Property," "Limitations of Police Powers," etc. Died 1903.

Tientsin, a large city and river port of China, in the province of Chihli, on the right bank of the Peiho; 34 miles from the mouth of the river. It is the port of the city of Peking, from which it is distant 80 miles S. E. The river is generally frozen over from about Dec. 15 to March 15, and the business at other times carried on by means of boats and junks is taken up by sledges, which swarm on the river. By the treaty of Tientsin, signed here in 1858, the port was declared open; and a British consulate was established in January, 1861, while part of the allied troops were still here. In 1881 Tientsin was connected by telegraph with Shanghai (the line extending to Peking); and there is a railway from Tientsin to the mouth of the Peiho, which will ultimately be extended to Shanghai. The imports have an annual value of $2,000,000 or $2,500,000, the exports about $5,000,000. There is also a large and rapidly increasing transit trade with Russia via Siberia. Pop. estimated at 1,000,000. There was severe fighting at this place at the time of the Boxer troubles in 1900 in which the American troops greatly distinguished themselves.

Tierra del Fuego, an archipelago consisting of a group of several large and numerous small islands, lying off the S. extremity of South America; in lat. 54° S., lon. 70° W.; separated from the continent by the Strait of Magellan. Its extreme S. point is formed by Cape Horn. The principal island, Tierra del Fuego, sometimes known as King Charles South Land, is divided between Chile and Argentine Republic, to the latter of which Staten Island also belongs. All the other islands and islets are included in Chile.

The whole group is mountainous, the high hills of the mainland (Tierra del Fuego) attaining a height of 7,000 feet, the snow line being at an altitude of 4,000 feet above sea-level. There are some dreary plains and a few fertile river valleys, with areas of marshy ground between Useless and St. Sebastian Bays. Toward the N. the plains produce good pasturage, and attempts at sheep farming have been made in the district, the Jesuit missionaries on Dawson Island having a farm with nearly 20,000 sheep and over 6,000 cattle. Forests of beech,

winter's bark, magnolia and cypress cover large areas.

The land of Tierra del Fuego is rapidly rising, and the coast line has advanced 3 kilometers since the date of the surveys of Captains King (1826–1828) and Fitzroy (1831–1836). The rocks are principally volcanic, but sedimentary strata are not uncommon on the principal island, and probably on some others. Granite, syenite, porphyry, quartz, serpentine, trachite, diorite, and sandstone comprise the principal rocks. Some coal, of a poor description, and a little gold have been found. The situation of the islands exposes them to a series of conditions which render their climate the most tempestuous in the world. The prevailing winds are from the W., beginning to blow with the rise of the sun, and increasing in violence till dusk, when a calm may generally be looked for with confidence. During the short summer the winds blow from the N. Settled weather never lasts for more than a fortnight at a time. December, January and February are the warmest months. March is exceedingly boisterous always, and during its course occur the most destructive gales.

The people are savages of a low type, divided into three tribes, the Onas (or Aonas), the Yaghans, and the Alakalufs, the Yaghans being now supposed to be the aborigines. The Onas are tall, the others short and stunted in stature. The charge of cannibalism once brought against them appears to be unfounded. They number about 8,000.

Tiffany, Charles Comfort, an American clergyman; born in Baltimore in 1829; was educated at Dickinson College, Andover Theological Seminary, and the Universities of Halle, Heidelberg and Berlin; ordained in the Episcopal Church in 1866; held charges in Boston and New York in 1867–1890; and became arch-deacon of New York in 1893. Died in 1907

Tiffany, Charles Louis, an American manufacturer; born in Killingly, Conn., Feb. 15, 1812; removed to New York city in 1837, where with J. B. Young he opened a stationery and fancy goods store, from which the house of Tiffany & Co. grew, with branch houses in London and Paris. Mr. Tiffany was one of the founders of the Union League Club and of the New York Society of Fine Arts, and a member of numerous societies. He died in New York city, Feb. 18, 1902.

Tiffany, Francis, an American clergyman; born in Maryland in 1827; was ordained in the Unitarian Church in 1852; and was pastor in West Newton, Mass., in 1865–1882. D. 1908

Tiffany, Louis Comfort, an American artist; born in New York city, Feb. 18, 1848; studied art in New York and Paris; has done considerable decorative work; discovered the "Tiffany Favrile Glass," and some of his designs for stained glass windows have become famous. He was president and art director of the Tiffany Glass and Decorating Company, and a member of many American and foreign art associations.

Tiffany, Louis McLane, an American surgeon; born in Baltimore, Md., Oct. 10, 1844; was graduated at the University of Cambridge, England, in 1866, and at the Medical Department of the University of Maryland, 1868, and afterward practised in Maryland. He was at different times demonstrator of anatomy, Professor of Operative Surgery and Professor of Surgery at the University of Maryland.

Tiflis, the capital of a province of the same name in Asiatic Russia, and chief city in the territory of the Caucasus, lies in a narrow valley on both sides of the Kur, 184 miles E. S. E. of Poti by rail. In its architecture and in the manners of its inhabitants the city presents a singular mixture of Asiatic and European features. The city is the seat of the civil and military authorities of Transcaucasia, and has 42 churches (23 Armenian), 2 mosques, a gymnasium, and several upper schools, a library, a botanic garden, a hospital, and a theater. It has active manufactures of woolens, silks, cottons, armor, and leather, and is the emporium for the important Russian trade with Persia. It is already connected with Teheran by telegraph. Pop. 160,645.

Tiger, in zoölogy, the largest and most dangerous of the Felidæ, exceeding the lion slightly in size and far

surpassing him in destructiveness. It is purely Asiatic in its habitat, but is not by any means confined to the hot plains of India, though there it reaches its highest development both of size and coloration. According to Fayrer, the full-grown male Indian tiger is from 9 to 12 and the tigress from 8 to 10 feet from the nose to the tip of the tail, and from 36 to 42 inches high at the shoulder. The ground color of the skin is rufous or tawny yellow, shaded with white on the ventral surface. This is varied with vertical black stripes or elongated ovals and brindlings. On the face and posterior surface of the ears the white markings are peculiarly well developed. The depth of the ground color and the intensity of the black markings vary, according to the age and condition of the animal. In old tigers the ground becomes more tawny, of a lighter shade, and the black markings better defined. The ground coloring is more dusky in young animals.

Though possessed of immense strength and ferocity, the tiger rarely attacks armed men, unless provoked, though often carrying off women and children. When pressed by hunger or enfeebled by age and incapable of dealing with larger prey, like buffaloes, the tiger prowls around villages, and, having once tasted human flesh, becomes a confirmed man eater. In a government report it is stated that "one tigress caused the desertion of 13 villages, and 250 square miles of country were thrown out of cultivation." The jaguar is sometimes called the American tiger.

Tiger Cat, a name of not very definite signification, sometimes given to some of those animals of the family Felidæ which are of middling size, and resemble the tiger in their form or markings, such as the chati, the margay, the ocelot, the serval, etc.

Tiger Flower, a Mexican bulbous plant frequently cultivated in gardens on account of the magnificence of its flowers. The stem is about one foot in height, with sword-shaped leaves. The flowers are large, of a singular form, and very evanescent.

Tiger Lily, a native of China, common in American gardens, having scarlet flowers turned downward, the perianth being reflexed. It is remarkable for having axillary buds on the stem. The bulbs are eaten in China and Japan.

Tiger Shark, a shark common in the Indian Ocean. Young specimens are generally met with close to the shore; but the full-grown fish, from 10 to 15 feet long, frequent the open sea. The color is a yellowish-brown, with black or dark-brown transverse bands or spots, whence the popular name. Called also zebra shark.

Tigert, John James, an American clergyman and author; born in Louisville, Ky., Nov. 25, 1856; was graduated at Vanderbilt University in 1877; Professor of Moral Philosophy there in 1881–1890; became book editor of the Methodist Episcopal Church, South, and editor of the "Methodist Review" in 1894. He was author of "Handbook of Logic," "Systematic Theology," etc.

Tigris, next to the Euphrates, the greatest river of Asiatic Turkey; rises on the S. slope of the Armenian Taurus range in Kurdistan to the S. of Lake Goljik. It has a sinuous course in a S. E. direction, almost parallel to that of the Euphrates, which river it joins at Kurna, after a course of 1,060 miles. Like the Euphrates, the Tigris rises in spring with the melting of the snow on the Armenian Mountains; and during the latter half of May, when the flood is at its height, the whole country between and beyond these rivers, for over 100 miles between Bagdad and Bussorah, is converted into a lake. The arrowy stream either loses less water by irrigation or receives more from its affluents than the Euphrates, for it is the larger of the two at the point of confluence.

Tilden, Douglas, an American sculptor; born in Chico, Butte co., Cal., May 1, 1860; lost his hearing as a result of scarlet fever and in consequence was educated at the State Institution for the Deaf in Berkeley, Cal., where he was graduated in 1879. Later he took up the study of sculpture and in 1893 was appointed a member of the jury on sculpture at the World's Columbian Exposition in Chicago. He was a member of the Na-

tional Sculpture Society, the New York Art Club, the San Francisco Art Association, etc., and Professor of Sculpture at the Mark Hopkins Art Institute. His works include "Baseball Player," "Tired Boxer," etc.

Tilden, Samuel Jones, an American statesman; born in New Lebanon, N. Y., Feb. 9, 1814; was educated at the University of New York; studied law with Benjamin F. Butler, and was admitted to the bar in 1841; began practice in New York city. During the Civil War he maintained that the struggle with the South could be terminated without resorting to acts not warranted by the Federal Constitution. Mr. Tilden became leader of the Democratic party in New York State in 1868, and in that capacity strenuously opposed the corrupt administration of the Tweed faction. In 1874 he was elected governor of New York, and during his term of office broke up the notorious "canal ring." In 1876 he was nominated for the presidency by the National Democratic Convention. In the election Hayes received 4,033,295 popular votes, and Tilden, 4,284,265. In 1877, on the finding of the Electoral Commission, the presidency was awarded to the Republican candidate by an electoral vote of 185 to 184. Mr. Tilden died in "Greystone," his country-seat, near Yonkers, N. Y., Aug. 4, 1886. The bulk of his fortune, which consisted of several million dollars, was bequeathed to trustees to be used for establishing a great public library in New York city, but his will was contested successfully. An heir relinquished her share of the estate and this was the nucleus of the Tilden Foundation of the New York Public Library.

Tilefish, a brilliantly colored bigheaded, deep-sea food fish, weighing from 10 to 40 pounds, first observed in 1879 off the N. E. coast of the United States. Lives in water 60 to 80 fathoms deep, and is rarely caught.

Tileston, Mary Wilder, an American author; born in Salem, Mass., Aug. 20, 1843. She was author of "Quiet Hours," "Prayers Ancient and Modern," etc.

Tilestone, in geology, the uppermost group of the Silurian period, consisting of a reddish, thin-bedded, slightly micaceous sandstone, which in some places attains a thickness of 1,000 feet.

Tillman, Benjamin Ryan, an American legislator; born in Edgefield co., S. C., Aug. 11, 1847; was educated at Bethany Academy. He was elected Democratic governor of South Carolina in 1890 and 1892; was conspicuous in the Constitutional Convention of South Carolina in 1895; and was elected United States Senator in 1895 and 1901. On Feb. 22, 1902, during the consideration of the Philippine Tariff Bill, Senator Tillman and his associate, Senator McLaurin, indulged in a personal encounter, for which the president of the Senate directed that the calling of their names should be omitted, a ruling which he subsequently withdrew in order that the Senate itself might pass on the breach of courtesy. On Feb. 28, both Senators were censured by the Senate for their action. Because of the occurrence in the Senate President Roosevelt withdrew from Senator Tillman an official invitation to meet Prince Henry of Prussia, which act became a source of much severe criticism of the President in certain parts of the South. It was thought that because of these two occurrences the President would decline to visit the Charleston Exposition, but the original invitation of the exposition managers was supplemented by a cordial communication from leading citizens of the city and State urging the President's attendance.

Tillman, Samuel Escue, an American military officer; born near Shelbyville, Tenn., Oct. 2, 1847; was graduated at the United States Military Academy and commissioned 2d lieutenant of artillery in 1869; was assistant Professor of Chemistry, Mineralogy, and Geology in the Military Academy in 1870–1873 and 1879–1880; assistant Professor of Philosophy in 1875–1876; and Professor of Chemistry, Mineralogy, and Geology after 1880. He was assistant astronomer in the United States expedition to Tasmania to observe the transit of Venus in 1874–1875; and author of "Essential Principles of Chemistry," "Important Minerals and Rocks," etc.

Tilly, Johann Tserklæs, Count von, one of the most notable generals of the Thirty Years' War; born in the castle of Tilly, Brabant, Belgium, in February, 1559. Maximilian, Duke of Bavaria, appointed him commander of his forces, and in 1620, two years after the beginning of the Thirty Years' War, he utterly routed the Bohemians. During the next period of the contest he defeated in turn the two Protestant leaders. In 1622 he drove from the Palatinate Christian, Duke of Brandenburg, and in August next year defeated him in a three days' engagement at Stadtloo in Munsterchen. In 1625 he led the army of the Catholic League against Christian IV., of Denmark, who commanded the army of Lower Saxony, and defeated him in the battle of Lutter. Along with Wallenstein he forced the Danish king to agree to the disgraceful peace of Lubeck (1629). Next year Wallenstein was forced to resign the command of the imperial forces, and Tilly succeeded him. In May, 1631. Tilly sacked with ferocious cruelty the town of Magdeburg. In September, 1631, Gustavus Adolphus defeated Tilly at Breitenfeld, and again at Rain on the Lech. In both battles Tilly was wounded. He died in Ingolstadt, April 30, 1632, a few days after his second defeat.

Tilt Hammer, a large hammer worked by steam or water power, and used principally in compacting the balls of iron as they come from the puddling furnace, and driving out the dross with which the iron is associated when in the form of pig, and some of which is removed by the reverberating flames of the furnace. It is also used in heavy forging.

Timber, trees cut down, squared, or capable of being squared, into beams, rafters, boards, planks, etc., to be employed in the construction of houses, ships, etc., or in carpentry, joinery, etc. The term is often used for all kinds of felled and seasoned wood. It is also a general term for growing trees yielding wood suitable for constructive purposes. The chief are fir, pine, oak, ash, elm, beech, sycamore, walnut, chestnut, mahogany, teak, etc.

In the United States there are 300 species of trees, the smallest of which grows to a height of 30 feet. In South America the number is much greater, and India possesses about 900 species of timber trees. The species in England do not exceed 30, and in France or Germany there are only a few more. Yet, though the kinds of wood are so much more limited in European countries, there are almost as few in general use in the United States as in Europe.

According to the United States census of 1900 there were 33,035 establishments engaged in the manufacture of lumber and timber products, employing $611,611,524 capital and 295,790 persons; paying $115,901,199 for wages and $317,923,548 for materials; and having an aggregate output valued at $566,832,984. In the fiscal year ending June 30, 1901, the exports of wood manufactures aggregated in value $11,099,643; and the imports of wood and wood manufactures, $19,754,205. The principal lumber-producing region is now that of Michigan, Wisconsin, and Minnesota; but here, as in the older States, the forests are being rapidly depleted, and ere long the United States will have to fall back for its chief supply on the Pacific and Gulf States. See LUMBER INDUSTRY.

Timbuktu, Africa, a great town S. of the Sahara Desert, occupied by the French in 1894, connected by telegraph with Algiers in 1906.

Timby, Theodore Ruggles, an American inventor; born in Dover, N. Y., April 5, 1822; invented the revolving turret for the original "monitor," the mole-tower system of defense, the revolving-tower and shield, the "American" turbine water wheel, and the method of firing heavy guns by electricity. Died in 1909.

Time, the general idea of successive existence, or that in which events take place, space being that in which things are contained. Relative time is the sensible measure of any portion of duration, often marked by some phenomenon, as the apparent revolution of the celestial bodies, more especially on an axis. Time is divided into years, of the sun, or the rotation of the earth, months, weeks, days, hours, minutes, seconds; but of these portions the

years and days only are marked by celestial phenomena. The instruments employed for measuring time are clocks, watches, chronometers, hourglasses, and dials; but the three first are those chiefly used.

Timoleon, a Greek general; born of a noble family at Corinth in the beginning of the 4th century B. C. In 344, when Timoleon was 50 years old, ambassadors from Syracuse arrived at Corinth imploring aid against Dionysius the younger, who was seeking to recover his authority over their city. Timoleon was made leader of the Corinthian expeditionary force, and ultimately made himself master of Syracuse, repelling the efforts of the Carthaginian allies in a great battle at Crimissus (339 B. C.). In six years he succeeded in clearing Sicily of tyrants, and in establishing free democratic constitutions. His work now done, he resigned his power and lived a private citizen profoundly respected, till his death in 337–336. His brilliant successes, his constant good fortune, and the tragic story of his disinterested sacrifices, make Timoleon a unique figure in ancient history. Plutarch and Cornelius Nepos have written his life.

Timothy ("one who honors God"), one of the companions of St. Paul on his missionary travels. Timothy was born either at Lystra or Derbe; his father was a Greek, his mother a Jewess. Both his mother, Eunice, and his grandmother, Lois, were Christians, having probably been converted by St. Paul on his first missionary tour through Lycaonia. Hence Timothy early knew the [Jewish] scriptures, probably with Christian interpretations, but his actual conversion seems to have been effected through the instrumentality of St. Paul, if, indeed, this be the meaning of the phrase "my own son in the faith." His constitution was feeble, sensitive, with a certain tendency to asceticism, yet not free from temptation to "youthful lusts." He was strongly recommended to St. Paul by the Christians at Lystra and Iconium. The apostle therefore chose him as missionary colleague, and had him circumcised for the sake of facilitating his work among the Jews. He thoroughly gained the confidence and affection of St. Paul, and was with him in Macedonia and Corinth (A. D. 52–53); and at Ephesus, from which he was dispatched for special duty to Corinth. Returning, he was with St. Paul when the second epistle to the Corinthians and that to the Romans were penned, as also when he passed through Asia Minor prior to his arrest, and during his imprisonment at Rome (A. D. 61–63). Probably about A. D. 64 he was left in charge of the Ephesian church. In Heb. xiii: 23 his own imprisonment and liberation are recorded. Tradition makes him ultimately suffer martyrdom, either in A. D. 96 or in A. D. 109.

The First Epistle of Paul the Apostle to Timothy.— An epistle addressed by St. Paul to Timothy. Some persons in the Ephesian church had taught, or appeared disposed to teach, a doctrine different from that of the apostle. Paul therefore, on departing from Macedonia, left Timothy behind to restrain these false teachers, pretentious men too much given to profitless "fables and endless genealogies" (verse 4). Paul charged Timothy to preach the Gospel, defining it as a "faithful saying, and worthy of all acceptation, that Christ Jesus came into the world to save sinners." Various dates have been assigned it; one of the most probable is A. D. 56.

The Second Epistle of Paul the Apostle to Timothy.—An epistle written by St. Paul after he had become a prisoner in Rome in bonds, who had been at least once judicially examined, and been required to make his "answer," a crisis which, however, ended in his being "delivered out of the mouth of the lion." The evidence for the authenticity of the epistle is the same as that for the previous letter. Two dates assigned it are A. D. 63, and July or August A. D. 65. It seems to have been the last of St. Paul's epistles.

Timothy Grass, a hard coarse grass with cylindrical spikes from 2 to 6 inches long. It is used mixed with other grasses for permanent pasture, and grows best in tenacious soils. It is extensively cultivated in North America. Timothy Hanson first recommended it, hence its name. Swine refuse it.

Timrod, Henry, an American poet; born in Charleston, S. C., Dec. 8, 1827. He died in Columbia, S. C., Oct. 6, 1867.

Timur, called also Timur Beg and Timur Lenk (that is, Timur the Lame), and, by corruption, Tamerlane, a celebrated Oriental conqueror, of Mongol or Tartar race; born in the territory of Kesh, near Samarcand, in 1336. His ancestors were chiefs of the district, and Timur by his energy and abilities raised himself to be ruler of all Turkestan (1370). By degrees he conquered Persia, and the whole of Central Asia, and extended his power from the great wall of China to Moscow. He invaded India (1398), which he conquered from the Indus to the mouths of the Ganges, massacring, it is said, on one occasion 100,000 prisoners. On his way from India to meet the forces of Bajazet, the Turkish sultan, he subjugated Bagdad, plundered Aleppo, burned down the greater part of Damascus, and wrested Syria from the Mamelukes, after which he overran Asia Minor with an immense army. Bajazet's army was completely defeated on the plain of Ancyra (Angora), in 1402, and the Sultan was taken prisoner. The conquests of the Tartar now extended from the Irtish and Volga to the Persian Gulf, and from the Ganges to the Grecian Archipelago. He was making mighty preparations for an invasion of China when death arrested his progress at his camp at Otrar, beyond the Sir-Daria, in 1405, and his empire immediately fell to pieces.

TIMOTHY GRASS.

Tin, in chemistry, a white, metallic, easily fusible metal, not much affected by exposure to dry or moist air at ordinary temperatures, but becoming oxidized superficially when heated, burning with a brilliant flame if the temperature be raised sufficiently high.

In metallurgy, tin is a white metal, with a slight yellowish tinge, and a brilliant metallic luster. It is wanting in tenacity, but is extremely malleable at a temperature of 212°. What is ordinarily called tin in domestic language, is sheet-iron covered with a layer of tin. Copper is also very well fitted for being coated with this metal.

For the manufacture of tin plates, the best soft charcoal iron is obliged to be used. After it has been rolled and cut to the requisite size, its surface is made chemically clean by immersion for a few minutes in dilute sulphuric acid. The sheets are then heated to a red heat in a reverberatory furnace, withdrawn, allowed to cool, hammered flat, and passed between polished rollers, and then washed in dilute acid. This preparation is needed to free the surface of the iron from the slighest portion of oxide, to which the tin would not adhere. In order to tin them, they are plunged one by one into a vessel of tallow, from which they are transferred to a bath of tin. From this they are taken after a certain time, allowed to drain, and dipped again. The superfluous tin at the edge of the plate is removed by dipping it in the melted tin once more, and detaching it by giving the plate a sharp blow. The tin and iron form a perfect alloy with each other. The appearance known as moire metallique is given by sponging the surface of the tin with dilute nitro-hydrochloric acid, washed with water, and afterward varnished with plain or colored varnish. Copper is tinned in the same way, but with greater ease, it being so much less difficult to clean the surface of that metal than iron. Tinfoil is made by heating pure tin to the requisite thinness. The alloys of tin are numerous and important. The principal of these are Britannia metal, consisting of equal parts of brass, tin, antimony, and bismuth; pewter, 4 tin, and 1 lead; Queen's metal, 9 tin, and 1 each of antimony, bismuth, and lead; the various solders; bell-metal,

78 copper, 22 tin; bronze, copper, with 4 to 6 per cent. of tin; gun metal, 78 copper and 22 tin; and several others. Speculum metal, used for the mirrors of reflecting telescopes, is a steel-white, hard, brittle alloy, of 1 part of tin and 2 of copper. An amalgam of tin and mercury is used for silvering looking glasses. A sheet of tinfoil is laid on an edged slab of stone carefully levelled, and mercury is poured on it till it forms a layer ⅛ inch thick. Glass is laid down on this, and the table is tilted to let the superfluous mercury run off, weights being gradually placed on the glass to facilitate the operation. Tin ores are met with but in few localities.

Cornwall, Banca, Mexico, and some parts of Australia, are the only important tin yielding districts. The most celebrated tin mines are those of Cornwall, England, which have been worked uninterruptedly from the earliest historic periods. In the United States, crystals of the oxide of tin have been found in localities of Massachusetts, New Hampshire, New York, New Jersey, Virginia, California, Missouri, and perhaps in other States, but though some of the mines, as those of Missouri and California, seem promising, tin has not been worked profitably up to the present time.

THE TINAMOU.

Tinamou, the name given to a genus and family of birds occurring in South America, and allied in some respects to the ostrich and emu. They somewhat resemble a partridge, and vary in size from that of a pheasant down to that of a quail. The great tinamou is about 18 inches long, and inhabits the forests of Guiana.

Tincker, Mary Agnes, an American novelist; born in Ellsworth, Me., July 18, 1833. During part of the Civil War she was a volunteer nurse in Washington; in 1873–1887 she resided in Italy, visiting Spain, France, and England. She wrote: "The House of Yorke"; 'A Winged Word"; "Autumn," etc.

Tinder, any substance artificially rendered readily ignitable but not inflammable. Before the invention of chemical matches it was the chief means of procuring fire. The tinder, ignited by a spark from a flint, was brought into contact with matches dipped in sulphur. Tinder may be made of half-burnt linen, and of various other substances, such as amadou, touchwood, or German tinder.

Tinning, the art, act, or process of coating other metals with tin for the purpose of protecting them from oxidation or rust. Hollow ware is tinned inside, having been first thoroughly cleaned and heated, by pouring grain tin into the vessel and turning and rolling it about so as to bring it in contact with every part. Powdered rosin is used in the bath to prevent the formation of an oxide, and the surface of the ware is rubbed with cloth or tow to aid the process. In cold tinning an amalgam of tin and mercury is applied to the metal, the mercury being afterward driven off. Bridle bits, stirrups, and other small articles are tinned by immersion. Also, the coating or layer of tin so laid on. Also, canning; packing meat, vegetables, etc., in tins.

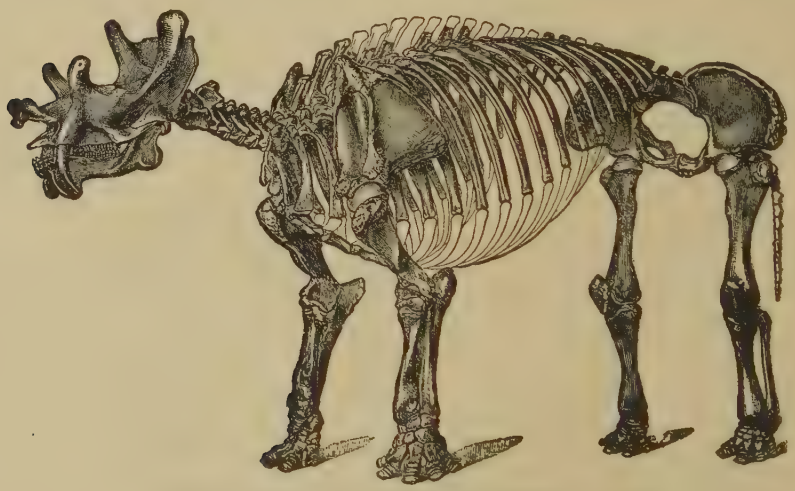
Tinoceras, or **Tinotherium,** a genus of mammals now extinct, found in the Eocene, and representing the order Dinocerata. The individuals were all large, some of them nearly equaling the elephants, while the brain was smaller than that of any living or fossil mammal.

Tin Plate. The manufacture of this article forms a branch of the iron trade. The art of tinning plate iron is said to have been invented in Bohemia, about the beginning of the 16th century, though the tinning of copper was known earlier.

The manufacture of tin plates is chiefly carried on in the United States and in South Wales. In 1890 the total exports from Great Britain amounted to 421,797 tons, valued at

$31,807,385; of this quantity 321,109 tons were sent to the United States. By the McKinley tariff of 1890 a high protective duty (2.2 cents per pound; lowered to 1.2; and again increased in 1897) was imposed on tin plates imported into the United States, in order to protect the manufacture there. In 1895 English exports were 366,120 tons, value $21,195,965.

According to the census of 1900 there were in the United States 57 establishments engaged in the manufacture of tin and terne plate, employing $6,650,047 capital and 4,004 persons; paying $2,181,240 for wages and $26,728,150 for materials; and having an aggregate output valued at $31,892,011.



RESTORATION OF SKELETON OF TINOCERAS INGENS.

Tippecanoe, a river of Indiana, which rises in the N. part of the State, flows W. S. W. and S. 200 miles, and empties into the Wabash 10 miles above Lafayette. It is famous for the battle fought near its mouth, Nov. 7, 1811, in which the Indians, under Tecumseh's brother, the prophet, were defeated by General Harrison.

Tippoo Sahib, more correctly, Tipu Sultan, Sultan of Mysore, and son of Hyder Ali; born in 1749. On the death of his father he was crowned with little ceremony, returning at once to the head of his army, which was then engaged with the British near Arcot. In 1783 he captured and put to death most of the garrison of Bednur; but news of the peace between France and England having reached his French allies, they retired from active service, and Tippoo ultimately agreed to a treaty (1784) stipulating for the status quo before the war.

During the continuance of this peace he occupied himself in regulating the internal administration of Mysore, sent ambassadors in 1787 to France to stir up a war with Great Britain, and failing in this, at length so far allowed his inveterate hatred of the English to overcome his judgment as to invade (1789) the protected State of Travancore. In the ensuing war (1790–1792) the British, under Colonel Stuart and Lord Cornwallis, were aided by the Mahrattas and the Nizam, who detested their powerful and aggressive neighbor; and though the tactics of the Sultan in laying waste the Carnatic almost to

the very gates of Madras baffled his opponents for a time he was ultimately compelled (1792) to resign one-half of his dominions, pay an indemnity of 3,030 lakhs of rupees, restore all prisoners, and give his two sons as hostages for his fidelity. Nevertheless his secret intrigues in India against the British were almost immediately resumed; another embassy was sent to the French; and the invasion of Egypt by the latter in 1798 and Tippoo's machinations having become known to the governor-general almost simultaneously, it was resolved to punish the perfidious Sultan. Hostilities commenced in March, 1799, and two months after Tippoo was driven from the open field, attacked in his capital of Seringapatam, and after a month's siege slain in the breach at the storming of the fort (May 4). He was buried, during an appalling thunderstorm, in the mausoleum he had built for his father. His government of Mysore after 1792 was most oppressive, yet Tippoo was extremely popular, and was esteemed by the Mohammedans as a martyr.

Tippoo Tib, a famous Arab trader in Central Africa. He accompanied Stanley on the occasion of the latter's second expedition to Africa from Nyangwe to the banks of the Lualaba; in 1887 Stanley appointed him Governor of Stanley Falls Station, a stated salary being guaranteed him, he also assisted Stanley in his search for Emin Bey, 1887-89. He died June, 1905.

Tisdall, Fitzgerald, an American educator; born in New York city, March 15, 1840; was graduated at the College of the City of New York in 1859; Professor of Greek Language and Literature in the College of the City of New York after 1879. He lectured extensively; visited Europe several times; and was a member and councillor of the American Institute of Archæology and a member of the American Philological Association.

Tisri, in the Jewish calendar, the first month of the civil, and the seventh of the ecclesiastical year. It corresponded to part of our September and October. The Great Day of Atonement and the Feast of Tabernacles fell within its limits. It is also called in I Kings vii: 2, Ethanim.

Tissues, (1) in animal anatomy, the texture or grouping of anatomical elements of the systems of which the organs are composed. Thus in special histology we speak of muscular tissue, or flesh; osseous tissue, or bone; adipose tissue, or fat; cartilaginous tissue, or gristle; pigmentary tissue, or coloring matter seen in the skin, etc.; areolar, cellular, or connective tissue, widely distributed in every part of the body, and serving to bind together and consolidate other parts and tissues. (2) In vegetable anatomy, the minute elementary structures of which the organs of plants are composed. Plant tissues are composed of elementary membrane and elementary fibre, and the principal forms under which they exhibit themselves constitute cellular tissue, fibrous tissue, and vascular tissue.

Tithe, etymologically a 10th, historically a 10th part of the tithable produce of the land paid to the clergy. The payment of tithe to the clergy originated in the recognition of a moral and religious duty. The discharge of this acknowledged obligation acquired the force of custom, then received the sanction of ecclesiastical law, and finally passed into the national jurisprudence of England and other Christian countries.

The first recorded instance of the payment of tithes is the offering of Abraham to Melchisedec, the second precedent is the vow of Jacob at Bethel. The consecration of a fractional portion of the produce of the land to the uses of the ministers of religion formed part of the Mosaic law. The tribe of Levi were maintained from this source, not having lands assigned to them like the other tribes. Neither patriarchal usage, nor precedents of Mosaic law, nor the Levitical economy were binding on Christians; but they doubtless suggested to the clergy the precept, and to the people the practice, of paying tithes to the ministers of religion. In the early part of the nineteenth century, contributions for the support of the clergy, commonly and officially known as tithes, were exacted in Massachusetts. Refusal to pay tithes caused riots in Wales, England, a few years ago.

Titian, or **Tiziano, Vecellio,** one of the most distinguished of the great Italian painters, and head of the Venetian school; born in Pieve de Cadore, in the Carnic Alps, in 1477. In 1511 he was invited to Padua, where he executed three remarkable frescoes still to be seen. In 1512 he completed the unfinished pictures of Giovanni Bellini in the Sala del Gran Consiglio at Venice, and the senate were so pleased that they gave him an important office. In 1514 he painted a portrait of Ariosto at Ferrara, and after his return to Venice he painted an "Assumption of the Virgin" (1516), considered one of the finest pictures in the world; it is now in the Academy of the Fine Arts in Venice. About 1528 he produced his magnificent picture, "The Death of St. Peter the Martyr" unfortunately destroyed by fire in 1867. In 1530 the Emperor Charles V. invited him to Bologna to paint his portrait and execute various other commissions. In 1532 he again painted the emperor's portrait, and he accompanied Charles to Madrid, where he received several honors. He remained three years in Spain, in which country many of his masterpieces are still to be found. In 1545 he visited Rome, where he painted the famous group of Pope Paul III., the Cardinal Farnese, and Duke Ottavio Farnese. He was patronized as warmly by Philip II. as by his father Charles V. Of Titian's private life but little is known. He died of the plague in 1576 aged 99, having painted to the last with almost undiminished powers.

Titicaca, a remarkable lake, in the heart of the Andes; partly in Peru and partly in Bolivia; 12,545 feet above the sea-level. It is 120 miles in length, with an average width of from 50 to 60 miles. The S. portion, measuring 24 by 21 miles, is almost severed from the main body of the lake by a projecting peninsula. The lake discharges at its S. W. extremity by the Desaguadero into the salt Lake Aullagas, which has no known outlet. The lake is deep and stormy, so that ice forms near the shores only. It contains a number of strange fishes, and eight species of marine crustaceans, which seem to indicate that it was once at the sea-level. There are eight inhabitable islands, the largest being Titicaca, which gave its name to the lake, and has an area of 20 square miles. It was the sacred island of the Incas, who laid it out in terraces planted with consecrated maize and flowers, and irrigated by channels supplied from the royal bath at the top. The lake is navigated by steamers, and in 1905-06 power-works were projected to tap the lake and electrify the southern railways of Peru.

Titiens, or **Tietjens, Teresa, a** German operatic singer; born in Hamburg, Germany, July 18, 1831. She appeared as Lucrezia in her native town in her 16th year, and her subsequent engagements at Frankfurt and Vienna had established her position as the chief lyric artist in Germany before her debut in London, on April 13, 1858. Her success here was so decided that she made that country her future home, and it was the peculiar scene of her triumphs. In the concert room and in oratorio her success was unequivocal. She died in the full maturity of her powers on Oct. 3, 1877.

Title, an appellation; a name. Also, an appellation of dignity, distinction, or preëminence given to persons; as, titles of honor, which are words or phrases belonging to certain persons as their right in consequence of certain dignities being inherent in them or conferred on them; as emperor, king, czar, prince, etc. In the United States there are no titles of distinction save those of professional men, which are conferred by authorized institutions as rewards for distinguished merit.

In law: (1) Property or right of ownership, or the sources of such right, or the facts and events which are the means whereby property is acquired; a party's right to the enjoyment of land or goods, or the means whereby such right has accrued, and by which it is evidenced. (2) The instrument or instruments which are evidence of a right. (3) A heading or indorsement; as, the title of an Act of Congress.

Titmouse, in ornithology, a popular name for any individual of the sub-family Parinæ. They are remarkable for the boldly defined color of

their plumage and their quick, irregular movements, running rapidly along branches in quest of insects, and often clinging thereto with their back downward. They feed not only on insects, but on grain and seeds, and not infrequently kill young and sickly birds with strokes of their stout, strong bill. They are very pugnacious, and the hens show great courage in defense of their nests. The chickadee, so named from its note, is the blackcap titmouse of North America.

Titular Church, a name given to the parish churches of Rome, as distinct from the patriarchal churches, which belonged to the Pope, and from the oratories. Each titular church was under a cardinal priest.

Titus, Flavius Sabinus Vespasianus, a Ruman emperor. He was the 11th of the 12 Cæsars, and the eldest son of Vespasian and Flavia Domitilla; born in Rome, Dec. 30, A. D. 40. He was brought up at the court of Nero and early served with credit as tribune in Germany and Britain, and in Judæa under his father. On Vespasian's elevation to the throne Titus was left to prosecute the Jewish war, which he brought to a close by the capture of Jerusalem after a long siege (70). About this time Titus received the title of Cæsar, and took a share in the work of government. He gave himself up to pleasure, and his attachment to Berenice, the daughter of Herod Agrippa I., offended the Romans. But no sooner had Titus assumed the weight of undivided power (79) than his whole character changed. The first act of his reign was to put a stop to all prosecutions for læsa majestas, and to decree heavy punishments against reformers. He completed the Colosseum and built the baths which bear his name, and lavished his beneficence on the sufferers from the great eruptions of Vesuvius, and the great three days' fire at Rome, followed by pestilence the year after. He died suddenly at his patrimonial villa in the Sabine country, Sept. 13, 81, not without the suspicion that he had been poisoned by his younger brother Domitian.

Titus, a companion of St. Paul, though not mentioned in the Acts of the Apostles. He seems to have been converted by the apostle (Tit. i: 4), probably at Antioch A. D. 50 or 51, and in the same year accompanied him to Jerusalem, and was present at that first council which recognized Gentile converts as part of the Church, and exempted them from the burden of the Mosaic ritual. Paul soon afterward practically carried out the liberty thus accorded by refusing to require Titus, who by birth was a Greek, to be circumcised. Titus was subsequently with Paul at Ephesus (A D. 56), whence the former was sent on a special mission to the Corinthians. When Titus returned (A. D. 57) he found the apostle in Macedonia. Subsequently (probably A. D. 65 or 66) he was left in Crete to arrange the affairs of the Church and "ordain elders in every city." Returning thence to Rome he was dispatched by Paul (A. D. 66 or 67) to Dalmatia. According to tradition Titus returned to his work in Crete, and died a natural death at an advanced age.

The Epistle of Paul to Titus, the third of St. Paul's pastoral epistles, was written to give Titus directions respecting the organization of the Cretan Church. After an introduction, the apostle lays down the qualifications of a scriptural bishop, gives a warning against Judaizers and other false teachers, affords directions as to the special duties of aged men and women, young men and women, servants, and subjects, and social duties, the whole interspersed with evangelical doctrine and precept. He concluded by instructing Titus how to deal with heretics, and asking him to come to Nicopolis, where he (Paul) hopes to winter, and sends salutations. There is a considerable resemblance between some passages in Titus and others in the Epistles to Timothy.

Toad, in zoölogy, the popular name of any species of the family Bufonidæ, which is almost universally distributed, but is rare in the Australian region, one species being found in Celebes and one in Australia. Three species are European. The common American species is more active than the European species, moving principally by leaping. The body is swollen and heavy-looking, covered with a warty skin, head large, flat, and toothless, with a rounded, blunt muzzle. There

is a swelling above the eyes covered with pores, and the parotids are large, thick, and prominent, and secrete an acrid fluid; when handled or irritated these animals can eject a watery fluid from the vent. But neither the secretion from the parotids nor the ejected fluid is harmful to man, and there is little doubt but that its effects on the lower animals have been much exaggerated. The toad has four fingers and five partially webbed toes. Toads are terrestrial, hiding in damp, dark places during the day, and crawling with the head near the ground. They are extremely tenacious of life, and can exist a long time without food.

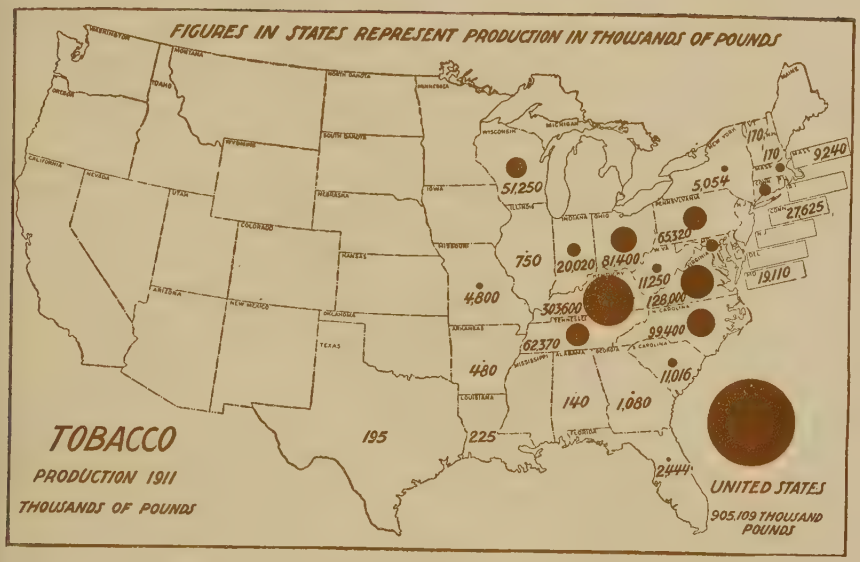
Tobacco, a very important plant, belonging to the natural order Solanaceæ, or night-shade order. The introduction of the use of tobacco forms a singular chapter in the history of mankind. According to some authorities smoking was practised by the Chinese at a very early date. At the time of the discovery of America, tobacco was in frequent use among the Indians, and the practice of smoking, which had with them a religious character, was common to almost all the tribes. The name tobacco was either derived from the term used in Haiti to designate the pipe, or from Tabaca in Santo Domingo, whence it was introduced into Spain and Portugal in 1559 by a Spaniard. It soon found its way to Paris and Rome, and was first used in the shape of snuff. Smoking is generally supposed to have been introduced into England by Sir Walter Raleigh. It was strongly opposed by both priests and rulers. Pope Urban VIII. and Innocent IX. issued bulls excommunicating such as used snuff in church, and in Turkey smoking was made a capital offense. In the canton of Bern the prohibition of the use of tobacco was put among the 10 commandments immediately after that forbidding adultery. The "Counterblast" or denunciation written by James I. of England is a matter of history. All prohibitions, however, regal or priestly, were of no avail, and tobacco is now the most extensively used luxury on the face of the earth.

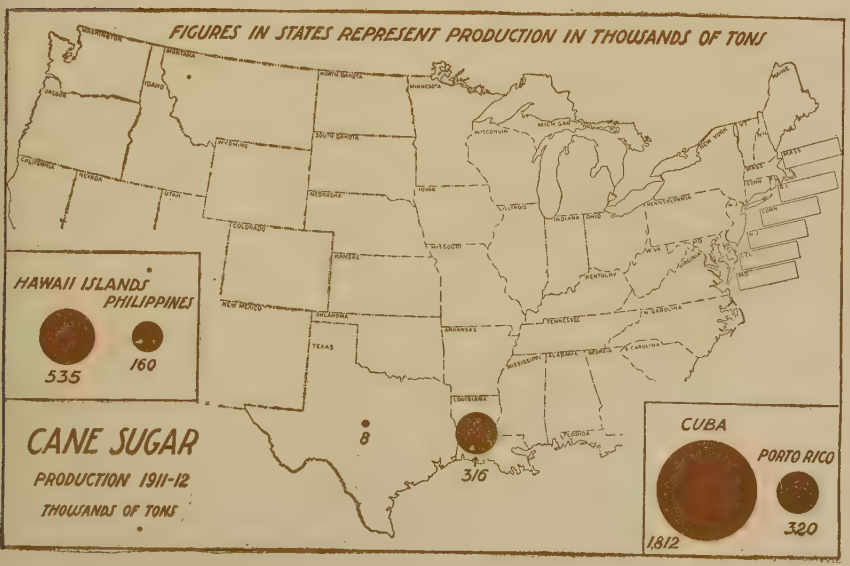
The most commonly cultivated tobacco plant (Nicotiana tabacum) is glutinous, and covered with a very short down. A less esteemed species is N. rustica, distinguished by a short yellowish-green corolla. The best Havana cigars are made from the leaves of N. repanda. All the tobacco plants are natives of America, and that continent has continued the principal producer, the chief tobacco-growing country being the United States, and the chief localities being Virginia and Kentucky. It was first cultivated in Holland early in the 17th century, and soon extended to other countries. The cultivation in Great Britain was forbidden from an early date till 1866, when it was permitted under certain conditions.

Tobacco owes its principal properties to the presence of a most poisonous alkaloid named Nicotine. Cigars, cigarettes, and cheroots are favorite forms of manufactured tobacco. As the best leaf is grown in Cuba, so also are the best cigars made there. The leaf used for the manufacture of Manila cheroots is grown chiefly on the island of Luzon.

Tobacco Sugar, a mixture of saccharose, dextrose, and levulose, in tobacco leaves, which have been preserved from any undue fermentative action. The sugars, separated as a lime compound, decomposed with oxalic acid, and purified by animal charcoal, yield results approximating to a cane sugar, dextrose, and levulose. The first-named differs from ordinary cane sugar by refusing to crystallize.

Tobit, in the Apocrypha, a book generally placed between II Esdras and Judith, and containing 14 chapters. A pious man, Tobit by name, resident in Thisbe in Naphthali, was taken captive by Enemessar (Shalmaneser), King of Assyria, and located in Nineveh. When his countrymen were put to death by the king's order, their bodies were thrown into the streets. Tobit made a practice of burying them. Once, when he had buried a body, and, being ceremonially unclean, was sleeping outside by the wall of his courtyard, "the sparrows muted warm dung" into his eyes and made him blind. In the days of his prosperity he had lent 10 talents of silver to a countryman, Gabael, who lived at Rages in Media. At another Median city, Ecbatana, was a relative of his called Raguel, whose daugh-


FIGURES IN STATES REPRESENT PRODUCTION IN THOUSANDS OF POUNDS
TOBACCO
PRODUCTION 1911
THOUSANDS OF POUNDS
51,250
750
20,020
81,400
65320
5,054
110
9240
27,625
19,110
11250
128,000
4,800
303600
99,400
62370
480
11,016
140
1,080
195
225
2444
UNITED STATES
905,109 THOUSAND
POUNDS


FIGURES IN STATES REPRESENT PRODUCTION IN THOUSANDS OF TONS
HAWAII ISLANDS
PHILIPPINES
535
160
CANE SUGAR
PRODUCTION 1911-12
THOUSANDS OF TONS
8
316
CUBA
PORTO RICO
1812
320

ter Sara had been married to seven husbands, all of whom had been killed by Asmodeus, the evil spirit. To recover the lent money, Tobit dispatched his son Tobias, having as his companion a man-servant. The two set out for Rages, taking Ecbatana on the way. As Tobias was bathing in the Tigris, a fish leaped out of the water, attempting to devour him; but he caught his assailant, which was cooked and devoured by the travelers, the heart, the liver, and gall being kept by Tobias, on the advice of his companion, the heart and liver to be smoked for the expulsion of evil spirits from persons possessed, and the gall to remove whiteness in the eye. Arrived at Ecbatana, he married the maiden, smoking out the evil spirit who would have made away with him. During the marriage festivities the companion was dispatched to Rages for the lent money, and obtained it, the two ultimately returning with the bride to Nineveh to Tobit, whose blindness was cured by the gall of the fish. When the time came for paying the servant, he declined all compensation, and revealed himself to be Raphael, one of seven angels of exalted rank and function. Sincere thanksgiving followed to God, who had sent the angel. By direction of Tobit, Tobias removed from Nineveh, the destruction of which had been prophesied by Jonah.

Viewed as a tale designed to commend piety and trust in God, the book of Tobit evinces genius, the plot being well sustained, and some of the scenes, depicting domestic life, being beautifully drawn.

Tobogan, or **Toboggan,** a kind of sled used for sliding down snow-covered slopes. It is simply a piece of birch or basswood, a quarter of an inch thick, from five to eight feet long by one or two broad, bent up in front like the dashboard of a sleigh, and braced by several cross pieces of hard wood a foot apart, and by two round rods, one on each side, on top of the cross pieces, all fastened by catgut to the sleigh. The bend at the bow is strengthened by two cross pieces, and kept in shape by catgut strings at the ends bound to the front cross piece and rod. Grooves are cut on the under side of the tobogan to let the knots sink below the wood. Also a sled to be drawn by dogs over snow.

Tocqueville, Alexis Charles Henri Maurice Clerel de, a French politician; born in Verneuil, July 29, 1805. His father was Herve Louis Francois Joseph Bonaventure Clerel, Comte de Tocqueville (1772–1856), peer of France, politician and historian, and a writer of some merit. The son was sent in 1832 by the French government, along with his friend M. de Beaumont, to the United States to inspect and report on the American prison system. They published a joint work on their return, entitled "Of the Penitentiary System in the United States and its Application in France." This treatise, which was crowned by the Academy, recommends the solitary confinement of prisoners. In 1832 Tocqueville resigned his office under government, and after a brief visit to England, gave himself up to the composition of the first of his two great works, "Democracy in America." This work was received with the favor it deserved; the Academy awarded to it a special prize of 8,000 francs, and a quick succession of honors was bestowed on the author. In 1837 he was appointed chevalier of the Legion of Honor; in 1839 he was chosen by the electors of Valognes as their representative; and in 1841 he was elected member of the Academy. For some years practical politics occupied all his attention. In 1849 he entered the Odilon Barrot Cabinet as minister of foreign affairs, but the coup d'etat of Dec. 2 — to which, as may be imagined, he was strongly opposed — drove him from office. He then occupied himself with "The Old Government and the Revolution" (1856, 7th ed. 1866). This is his greatest work. This work, powerful as it is, was but a fragment of the original design. Tocqueville intended to follow it up by others dealing with the great events in the later history of France. He was engaged at these when he died in Cannes, April 16, 1859.

Tocsin, an alarm bell, or the ringing of a bell for the purpose of giving an alarm. The use of the tocsin, during the troubles of the French Revolution, to assemble the multitudes,

has rendered the word almost proverbial.

Todars, Todawars, or **Tudas,** the name of a singular race of people found in the upper part of the Neilgherries, in Southern India. They are a fine, muscular race, of pastoral habits of life; possess a peculiar, unwritten language of their own; worship the sun; practise polyandry; assert that their ancestors were the aboriginal inhabitants of Hindustan; levy a tithe of one-sixth of the crops of various agricultural tribes, they themselves holding aloof from the culture of the soil.

Toga, the principal outer garment and characteristic national dress of the ancient Romans, made of wool, or silk. The right of wearing it was the exclusive privilege of citizens, its use being forbidden to Peregrini and slaves. It was, moreover, the garb of peace, in contradistinction to the sagum of the soldier. The ordinary mode of wearing it was to throw the whole toga over the left shoulder, leaving one extremity to cover the left arm, and to bring it round the back and under the right arm, which remained at liberty, the second end being carried again over the left shoulder.

Togo, Heihaichiro, a Japanese naval commander; b. Oct. 14, 1847. He received the European part of his professional training in 1873-4, on board the British training-ship Worcester, and at the Royal Naval College, Greenwich, England. In the Chino-Japanese War, 1894-5, he won celebrity when commanding the Naniwa, a cruiser of 3,650 tons, he commenced the war by sinking the Kowshing, a transport vessel flying the British flag, and carrying 1,000 Chinese troops, who, after four hours parley, refused to surrender. In the Russo-Japanese War, 1904. Vice-Admiral Togo was given chief command of the Japanese fleet, and added to his fame by his destructive attacks on the Russian Asiatic fleet, and by his brilliant blockading of Port Arthur. See Russo-Japanese Dispute.

Tokens, pieces of money current by sufferance, and not coined by authority; or coins only nominally of their professed value. In England tokens first came into use in the reign of Henry VIII., owing to the want of authorized coins of value lower than a penny. Stamped tokens of lead, tin, and even leather were issued by vintners, grocers, and other tradesmen during the time of Elizabeth, and were extensively circulated, being readily exchanged for authorized money at the stores where they were issued. A currency of this kind (mostly of copper) was much used in Great Britain during the close of the 18th century, and was used in the United States during the Civil War.

Tokyo, formerly called Yeddo, the capital of Japan, and chief residence of the mikado; on a bay of the same name; on the S. E. coast of Hondo, the largest of the Japanese islands, and connected by rail with Yokohama and Kanagawa. The bulk of the houses are of wood, but there are many new buildings of brick and stone, and an imperial palace has been erected near the center, as also public offices, etc. The greater part of the town is flat, and intersected by numerous canals crossed by bridges. The streets are generally narrow and irregular. Gas has been introduced, and the sanitary arrangements have been improved. Education is well organized, and there are nearly 700 private and elementary schools. Tokyo contains the imperial university, and it may be considered the center of the political, commercial, and literary activity of Japan. Pop. 1,452,564.

Toledo, a city and county-seat of Lucas co., O.; on the Maumee river, the Miami and Erie canal; 113 miles W. of Cleveland. The river is here navigable for the largest lake steamers.

Toledo has regular steamboat communication with all ports on the Great Lakes, and the many railroads which touch here give it connection with a vast region. It is therefore an important distributing point for produce and manufactures. It is especially known as a clover seed and soft-coal market. The city has a number of large grain elevators, with a storage capacity of over 5,000,000 bushels. The manufactures include carriages, wagons, pumps, steam engines, agricultural implements, furniture and cabinet ware, boats, bicycles, malt liquors, coffee and spice, flour and grist, lumber products, etc.

It also has flour mills, machine shops, and large shipbuilding interests.

Toledo was early known as the "Miami of the Lakes." Later it became known as the "Lady of the Lakes." Prior to its settlement by the whites the Miami Indians inhabited its site. The place was long a trading post, and it was not till 1794, when Gen. Anthony Wayne won his great victory at Fallen Timbers, that the colonists were enabled to occupy it peaceably. Pop. (1890) 81,434; (1900) 131,822; (1910) 168,497.

Toledo, a famous city of Spain; capital of a province, and long the capital of the whole country; on the N. bank of the Tagus, by which it is encompassed on three sides, 40 miles S. S. W. of Madrid. It is situated on a number of hills, 2,400 feet above sea-level; and the climate, excessively hot in summer, is bitterly cold in winter. In the middle of the city rises the lofty, massive cathedral, surrounded by numerous churches and convents, mostly deserted. The cathedral, built in 1227–1493, on the site of a former mosque (consecrated to Christian uses in 1086, but pulled down to make way for the new church), is a large oblong edifice with semicircular apse, and belongs to the simplest, noblest style of Spanish-Gothic, with a few touches of the florid Gothic, classical, and Saracenic styles. Toledan sword blades, famous since old Roman times, are still made, but outside the city. Pop. 20,837.

Toleration, the act of tolerating or enduring; allowance of something not wholly approved. Specifically, the recognition of the right of private judgment in matters of faith and worship; the liberty allowed by a government to every individual to hold or publicly teach his own religious opinions, and to worship how, when, and whom he pleases, provided he does not violate thereby the rights of others or infringe laws made for the maintenance of decency, morality, and good order, or for the security of the State. In Article VI. of the Constitution of the United States it is ordained that "No religious test shall ever be required as a qualification to any office or public trust under the United States"; and in Article I., in addition to an amendment of the Constitution, it is further ordained that "Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof." Nevertheless many years elapsed before full religious toleration was established by law in all the New England States.

Toleration Act, the name given to a statute of William and Mary, under which freedom of worship was granted to Protestant dissenters from the Church of England, provided they made a declaration against transubstantiation, and took the oaths of allegiance and supremacy. This act has been so amended and extended from time to time that now all dissenters, Roman Catholics, Jews, and all other sects alike enjoy all the privileges of the constitution.

Toll, a tax paid, or duty imposed, for some liberty or privilege or other reasonable consideration; such as (a) the payment claimed by the owners of a port for goods landed or shipped there; (b) the sum charged by the owners of a market or fair for goods brought to be sold there; (c) a fixed charge made by those intrusted with the maintenance of roads, streets, bridges, etc., for the passage of persons, goods, and cattle.

Tolman, Herbert Cushing, an American educator; born in South Scituate, Mass., Nov. 4, 1865; was educated at Yale and Berlin Universities; became Professor of Greek at Vanderbilt University in 1894.

Tolstoy, Count Lyoff (Leo) Nikolayevitch, a Russian novelist; born on the family estate of Yasnaya Polyana, in the province of Tula, Russia, Sept. 9, 1828. He served in the Crimean War, and afterward traveled extensively. In 1861 he took up permanent residence on his country estate. Among his earliest works are: "Detsvo" (Childhood), "Otrchestvo" (Boyhood), and "Iunost" (Youth); also "Cossacks," "Sevastopol," and a number of military sketches. "War and Peace" was published in 1865-1868; "Anna Karenina" in 1875-1878. His peculiar doctrines are promulgated in "My Confession," "In What My Faith Consists," etc.; many of them are forbidden in Russia. His later works are: "The Kreutzer Sonata"; "Death of Ivan Ilyitch"; "Master

and Man." Nearly all have been translated into English and most other modern languages. D. Nov. 20, 1910.

Toltecs, a Mexican race who are supposed to have been supreme in Central America from the 7th to the 11th centuries. They were completely obliterated by the Aztecs and Tezcucans, who held the country when the Spaniards first landed. The latter races were of a martial spirit, but they were indebted for their arts, their civilization, and their religion to their milder predecessors. The Toltecs present striking analogies to the Etruscans, and in a less degree to the Egyptians and Assyrians. They were great builders, and their religion was a mystic system of great complexity, intimately connected with the study of astronomy, and interpreted by a priesthood, who formed an exclusive caste.

Tom, popularly known as Blind Tom, an American musician; born of negro slave parents, near Columbus, Ga., May 25, 1849. He was blind from his birth, and the only sign of intelligence he gave during infancy was an interest in music. When he was four years old he was found one night reproducing on the piano pieces which the young ladies in his master's house had been playing during the day. There is no other instance in musical history, where one so young as Blind Tom was has shown so great an attainment in the power of reproduction and phonetics. Tom made his first appearance in New York, Jan. 15, 1861, and afterward traveled extensively in the United States and Europe, performing astonishing feats on the piano.

Tomahawk, an Indian hatchet or ax used in war and in the chase, not only in hand-to-hand combats, but also by being thrown to a considerable distance so as to strike the object with the sharp edge. The native tomahawks have heads of stone attached by thongs, etc., but steel tomahawks are supplied to the Indians by the governments and traders with whom they deal, and a pipe is usually attached to the poll. A hole is drilled through the bottom of the bowl and the poll of the ax, to meet one passing through the length of the handle. As a nautical term, a poleax. To bury the tomahawk, means to make peace; it being the custom of the Indians to bury the tomahawk during the time of peace; so, to dig up the tomahawk means to go to war, to fall into dispute.

Tomato, or **Love Apple,** a plant of the natural order Solanaceæ. It is one of a genus of several species, all natives of South America, chiefly on the Peruvian side. In the United States and other countries in which the summer is warm and prolonged, it has long been cultivated for the

LARGE EARLY RED TOMATO.

excellent qualities of the fruit as an article of diet. Though belonging to a natural order of plants usually regarded with suspicion on account of the powerfully poisonous properties of many of the species comprised in it, it is now recognized as one of the most important and valuable of vegetables grown for human food.

Tomb, a monument erected over a grave in order to mark the resting place, and preserve the memory, of the deceased. In early ages, and among Eastern nations, it sometimes became the practice to place the remains of the dead in excavated sepulchers, whose interior was often decorated with painting or otherwise. Where the usage was to burn the dead their bones and ashes were placed in urns in these receptacles. Some of the most remarkable rock tombs were those of Egypt. The rock tombs of Persia and Lycia have imposing architectural facades.

Tome, Jacob, an American philanthropist; born in Manheim town-

ship, York co., Pa., Aug. 13, 1810; went to Port Deposit, Md., in 1833. In 1884 he presented to Dickinson College a valuable building for scientific uses. His largest gift was for the foundation of the Jacob Tome Institute, at Port Deposit, $1,600,000, a sum that was increased by his will to more than $3,500,000. He died in Port Deposit, Md., March 16, 1898.

Tomes, Robert, an American physician and author; born in New York city, March 27, 1817. Besides many contributions to journals and periodicals, he published: "The Bourbon Prince"; "Richard the Lion-Hearted," etc. He died in Brooklyn, N. Y., Aug. 28, 1882.

Tomlinson, Everett Titsworth, an American author; born in Shiloh, N. J., May 23, 1859. He published numerous juvenile stories, including: "The Search for Andrew Field"; "The Boy Soldiers of 1812"; "The House Boat on the St. Lawrence," etc.

Tommy Atkins, a name given to the privates of the British army. It is said to have originated in the custom of making out blanks for military accounts with the name. "I, Tommy Atkins," etc. Kipling has immortalized it in verse.

Tompkins, Charles H., an American military officer; born in Fort Monroe, Va., Sept. 12, 1830; studied at the United States Military Academy; began his active military career in 1856. He was promoted 1st lieutenant in the 2d United States Cavalry in April, 1861. During his service in the defense of Washington he distinguished himself on the night of May 31, 1861, by making one of the first cavalry reconnoissances of the war. At the head of the 5th Cavalry he charged through Fairfax Court House, Va., three times and captured two outposts. In recognition of his gallantry during the war he was brevetted Brigadier-General in March, 1865. He was chief quartermaster of the principal divisions of the army in 1865–1888; was then made chief quartermaster of the Division of the Atlantic; and was retired with rank of colonel, Sept. 12, 1894. Died 1895.

Tompkins, Daniel D., an American statesman; born in Fox Meadows, Westchester co., N. Y., June 21, 1774. He was a member of Congress in 1804–1807, when he resigned to become Judge of the Supreme Court of New York. He was governor in 1807–1817 and Vice-President of the United States in 1817–1825. He was a delegate to the State Constitutional Convention of 1821, contributed money and troops to the national government in the War of 1812, during which he commanded the 3d Military District; and in a message to the New York legislature in 1817, recommended the total abolition of slavery in that State, an act which brought about the passage of the bill against slavery which took effect on July 4, 1827. He died in Staten Island, N. Y., June 11, 1825.

Toner, Joseph Meredith, an American physician; born in Pittsburg, Pa., April 30, 1825; settled in Washington, D. C., in 1855. He was the originator of the American Medical Association Library, founded in Washington in 1868, and made a part of the Smithsonian Institution. He invented the system of symbols of geographical localities which the United States Postoffice Department adopted for its publications. He was the author of numerous medical works. In 1882 he presented his library of 26,000 volumes and 18,000 pamphlets to the United States government. Died in Washington, D. C., Aug. 1, 1896.

Tonga, or **Friendly Islands,** a group in the S. Pacific Ocean, forming an archipelago of very considerable extent, and consisting of more than 150 islands, the greater part of which are either mere rocks or shoals, or desert spots. Most of them are of coral formation; but some of them are volcanic in their origin, and in Aofua there is an active volcano. The principal member of the group is Tongatuba or Sacred Tonga. The Tonga Islands were discovered by Tasman in 1643, but were named by Captain Cook, from the firm alliance that seemed to subsist among the natives, and from their courteous behavior to strangers. Total area, 374 square miles; pop. 17,500.

Tongue, in human anatomy, a muscular organ in the mouth, covered with mucous membrane, the muscular structure rendering it of use in mastication, deglutition, and the articulation of speech, while the mucous mem-

brane, which is endowed with common and tactile sensibility, constitutes it the seat of the sense of taste.

Tongues, Confusion of, the penalty inflicted on the builders of Babel when God so confounded their language that they could not understand each other, though up to that time there had been among them only one language. The result was that the building of the tower was abandoned, and those who had been engaged in its erection were dispersed over various lands (Gen. xi: 1-9).

Tongues, Gift of, a gift bestowed in connection with the Pentecostal descent of the Holy Spirit. When the members of the Church had assembled with one accord on the Jewish day of Pentecost, suddenly a mighty, rushing wind entering, pervaded the building in which they had assembled, and cloven tongues as of fire descended on each, and those on whom they were bestowed began to speak with "other tongues, as the Spirit gave them utterance" — the Parthians, Medes, Elamites, and others, who repaired to the place when news of the miracle reached them, bearing testimony to its reality (Acts ii: 1-21). Four explanations of this mysterious gift have been offered: (1) That on the day of Pentecost the disciples received a supernatural knowledge of all such languages as were needed for their work as evangelists. (2) That the gift consisted in the impression produced on the hearers, and that the words uttered by the disciples in Aramaic were heard by those who listened as in their native speech. (3) That the "tongues" consisted of ecstatic bursts of praise which the disciples might have heard uttered at previous feasts of Pentecost by foreign pilgrims, and were, therefore, simply a supernatural exaltation of memory. (4) That they were cries of ecstatic devotion of no definite significance except to those who uttered them.

Tonkin. See ANAM.

Tonnage, in regard to ships, a measure both of cubical capacity and of dead-weight carrying capability. The term, used by itself, may have reference severally to "builders' old measurement" tonnage (B. O. M.), "register" tonnage, "displacement" tonnage, "freight" tonnage, etc., each of which expressions is more or less current in shipping circles. From very early times in the history of shipping a scale of one sort or other must have been employed to determine the relative capacity or carrying power of different vessels, and in point of fact the term "tonnage" in this connection can be traced back for at least 500 years. In Great Britain the first Act of Parliament dealing with the subject was passed in 1422, a second was introduced in 1694, and a third in 1720, but the application of these was limited to particular classes of ships, or those employed in particular trades.

Tonsilitis, inflammation of one or both of the tonsils, generally extending also to the palate and uvula. It brings with it dryness, pain, and heat of the throat, with difficulty of swallowing, and often ends in abscesses, one at least of which suppurates. It is a common disease in moist variable weather.

Tonsils, in anatomy, two glands, one on each side of the palate between its pillars. They consist of a number of deep mucous follicles surrounded by and deposited in cellular tisue arranged in a somewhat circular form. The chief diseases which affect the tonsils are inflammation and hypertrophy of their substance, or the morbid influence may be specially concentrated on the follicles alone.

Tonsure, in ecclesiology and Church history, the shaving of the crown in a circle, which is a distinguishing mark of clerics in the Roman Church. Most of the mendicant and cloistered orders allow only a narrow strip of hair to grow round the head, all above and below being shaved; the tonsure of secular clerics is small. The tonsure is a necessary preliminary to entering the clerical state, whether secular or religious; in the former case it is conferred by the bishop of the diocese, in the latter by the head of the religious house, if a mitered abbot. It invests the receiver with all the privileges of a cleric, and furnishes a means to distinguish the higher from the lower clergy, as the extent of the tonsure increases with the rank till the priesthood is reached.

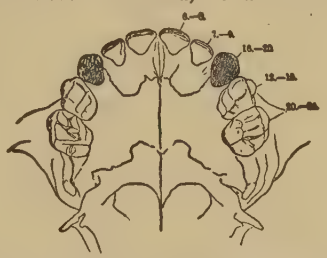
Tontine, a term derived from the name of Lorenzo Tonti, a Neapolitan,

who settled in Paris in Cardinal Mazarin's time, and proposed in 1653 to raise a fund of $125,000,000 for the relief of the national exchequer by means of a financial association, of which the great prize should ultimately accrue to the longest liver. There were to be shares of $1,500. The subscribers were to be divided into 10 classes according to age; and for each class a fixed sum was annually to be divided equally among the members of the class. In this way, while each member should get fair interest from the first on his capital, the profit falling to the survivors would increase as years went on, and the last survivor would receive the whole of the interest due to the class he belonged to. Mazarin and Tonti were both Italians, and regarded in Paris with suspicion, and, in spite of the cardinal's support, the scheme fell through. In 1689–1692 Louis XIV., sorely in need of money, reverted to the plan of the Italian adventurer, and raised a sum of $70,000,000 by a tontine of 40 years' duration. The sole survivor was in 1726 drawing an annuity of $367,500 on his original share of $1,500. The tontine is a lottery of annuities — or compound of lottery and annuity — and was frequently had recourse to in France in the 18th century, with government sanction.

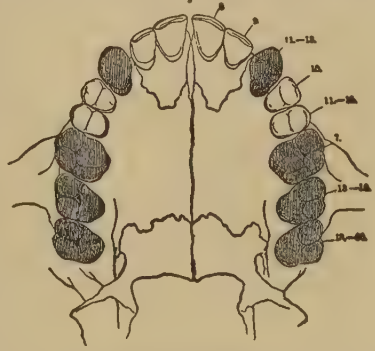
Toombs, Robert, an American statesman; born in Wilkes co., Ga., July 2, 1810; was a Whig member of Congress from Georgia in 1845–1853; and a United States Senator in 1853–1861. He was expelled from the Senate in 1861, and in the same year was elected to the Confederate Congress and also became Confederate Secretary of State. He resigned to become a Brigadier-General in the Confederate army. After the war he resided abroad till 1867. He refused to take the oath of allegiance to the United States government, being to the end of his life bitterly opposed to the reconstruction policy of the government. He died in Washington, Ga., Dec. 15, 1885.

Tooth, one of the hard bodies of the mouth, attached to the skeleton, but not forming part of it, and developed from the dermis or true skin. True teeth consist of one, two, or more tissues differing in their chemical composition and in their microscopical appearances. Dentine, which forms the body of the tooth, and "cement," which forms its outer crust, are always present, the third tissue, the "enamel," when present, being situated between the dentine and cement.

The incisors, or cutting teeth, are situated in front, and possess a single conical root or fang, and a vertical crown bevelled behind, so as to ter-



FIRST TEETH:
The figures refer to months after birth.



SECOND TEETH:
The figures refer to years after birth.

minate in a sharp cutting edge. These teeth are specially fitted, as their name implies, for cutting the food. In man there are two of these incisors in each side of each jaw (in the pre-maxilla). The permanent incisors, molars, and premolars are preceded by a set of deciduous or milk teeth, which are lost before maturity, and replaced by the permanent ones. In herbivorous animals they crop the herbage; in rodents (the rabbit, hare, rat, beaver,

etc.,) these teeth are very much developed, and differ from any other teeth occurring in mammals in this respect, that their growth continues throughout life; and if their length does not constantly increase, it is because their free extremity or edge is worn down by trituration as fast as they grow at the base from their roots.

The canines (so called from their prominence in the dog) come next to the incisors. Their crown is rather conical than wedge-shaped, and their fang sinks more deeply into the jaw than in the case of the incisors. In all carnivorous animals they are largely developed, being obviously formed for tearing the flesh of their prey. In man there is one canine tooth in each half-jaw; and there is never more than this number in any of the lower animals.

The premolars (known also as bicuspids and false molars) come next in order to the canines; they are smaller than the latter, and their crown presents two pyramidal eminences. In man there are two premolars in each half-jaw. Their function more nearly approaches to that of the true molars behind them, than to that of the canines.

The true molars (or multicuspids) are placed most posteriorly. They are remarkable for their comparatively great size, the square form of the upper surface, on which are from three to five elevations or cusps, and for their short root, which is divided into from two to five branches, each of which is perforated at its extremity. They appear first in the permanent set. In man there are three molars in each half-jaw, the posterior one being termed the wisdom tooth, from its being cut the latest; they are especially employed for grinding the food, under the action of the muscles of the lower jaw.

The teeth are so admirably adapted for the special purposes which they are called on to fulfill that it is generally easy, from a careful examination of them, to say to what class of animals they belong, and to draw various conclusions regarding the habits and structure of the class generally. Thus, in carnivorous animals the molars are not grinding teeth, but present sharp cutting edges, and those of the upper and lower jaw overlap each other, resembling a pair of scissors in their action. In insectivorous animals the molars have a tuberculated surface, with conical points and depressions, so arranged as to lock into each other. In frugivorous animals, living on soft fruits, these teeth are provided with rounded tubercles, while in herbivorous animals they have a broad, rough surface, resembling a millstone.

There is also a close connection between the articulation or joint of the lower jaw and the nature of the food used by the animal. Thus, in purely carnivorous animals, in which the teeth simply tear and cut the food no grinding motion is required, and the jaw is capable only of a simple hinge-motion in the vertical plane; while in herbivorous animals the joint is so constructed as to allow of extensive sliding and lateral motion of the lower molar teeth upon the upper. In man both the form of this articulation and the general character of the teeth point to an intermediate position in relation to food, and form a physiological argument for the mixed diet which general custom has decided to be most natural to our species.

Decay of the teeth is rarely met with on smooth surfaces exposed to the friction of food and the direct washings of the saliva. It usually begins in some pit or groove in the enamel or between the teeth, such points forming a lodgment for the development of the organisms. Once the enamel has been penetrated the decay proceeds more rapidly, spreading laterally beneath the as yet healthy enamel and toward the pulp. The more dense the structure of the tooth the more directly does the decay penetrate in the direction of the pulp, though its process is not so rapid and its tendency to spread is less.

Topaz, a mineral, ranked by mineralogists among gems, characterized by having the luster vitreous, transparent to translucent; the color yellow, white, green, blue. It is harder than quartz. It is a silicate of aluminum, in which the oxygen is partly replaced by fluorine. It occurs massive and in crystals. Topazes occur generally in igneous and metamorphic rocks, and in many parts of the world,

as Cornwall, Scotland, Saxony, Siberia, Brazil, etc. The finest varieties are obtained from Brazil and the Ural Mountains.

Topeka, city and capital of Shawnee county and of the State of Kansas; on the Kansas river and the Atchison, Topeka & Santa Fé and other railroads; 67 miles W. of Kansas City; is in a coal-mining region; has railroad shops, flour, planing, and woolen mills, vitrified brick works, meat-packing houses, and foundry, iron, boiler, and machine plants; and besides the State Capitol, contains the State Reform School, State Insane Asylum, Washburn College (Cong.), Kansas Medical College, College of the Sisters of Bethany, and Federal Building. Pop. (1910) 43,684.

Tophet, in Scripture, a place in the immediate vicinity of Jerusalem, considered by Milton to be identical with the valley of Hinnom, but described in Scripture as in that valley. It was S. E. of Jerusalem, and had been prepared of old for some king of Israel, or for Moloch. Whatever its primary design, "high places" were erected there, and it became the chief seat of the worship of Moloch in Palestine. It became a burial ground, ultimately overcrowded with bodies.

Topography, the "description of places," a detailed account of the superficial features of a tract of country, of any natural object such as a hill or river, or of a city, street, or public building. Topography is distinguished from geography in being descriptive and more detailed.

Topography, Military, the minute description of places with special reference to their adaptability to military purposes. It is the business of topographical engineers of the army in time of peace to secure all possible information of countries which may subsequently become theaters of war.

Topolobampo Colony, the name of a coöperative enterprise founded by Americans in 1887 on Topolobampo Bay, Sinaloa, Mexico. They established two settlements, one on the N. shore of the "Strait of Joshua," "Topolobampo," and another, "Vegaton," on the Fuerte river. These town sites occupied respectively about 18,000 and 1,500 acres, and were about 35 miles apart. The colonists surveyed and laid out about 18,000 acres on the N. shore of Topolobampo Bay into avenues, streets, walks, parks, circles, quays, drives, etc., the public areas occupying about 40 per cent. of the whole. The experiment was a failure and the colony was abandoned in 1891. It was an attempt to realize Edward Bellamy's social city, described in "Looking Backward."

Torbert, Alfred Thomas Archimedes, an American military officer; born in Georgetown, Del., July 1, 1833; was graduated at the United States Military Academy in 1855. He was commissioned colonel of the 1st New Jersey regiment in September, 1861, and was promoted captain in the 5th United States Infantry in the same month. In the latter half of 1862 he won distinction in the battles of Manassas and Crampton's Gap; was made Brigadier-General of volunteers on Nov. 29, of that year. In August, 1864, he became chief of cavalry of the middle military division and under Sheridan had command of three divisions. He particularly distinguished himself on Sept. 19, 1864, when he took part in routing the enemy at Winchester, and on Oct. 9, won the cavalry battle at Tom's river. On Dec. 22 and 23 he had command at Liberty Mills and Gordonsville. In March, 1865, he was brevetted Major-General, U. S. A. for gallantry during the war. He served as consul-general to Paris in 1873–1878. He was drowned Sept. 30, 1880, while a passenger on the steamer "Vera Cruz," which foundered off the coast of Florida, while on her way to Mexico.

Torbert, John Bryant, an American topographic draughtsman; born in Washington, D. C., May 8, 1867; was graduated at the Law Department of Columbia University in 1888; was admitted to the practice in the Supreme Court of the District of Columbia in 1889. He subsequently became eminent as a draughtsman; was engaged in the United States Geological Survey in 1886–1893. In the latter year he was transferred to the topographic office of the United States Postoffice Department. He became identified with the Geological Society of Washington and the National Geographical Society.

Tornado, a whirlwind, usually coming on suddenly, continuing but a brief period and covering only a small area. It is generally accompanied by rain, lightning, and thunder. It is of the same type of storm as a cyclone, but more local, covering a smaller area, and generally less violent, though still sufficiently so to be highly dangerous. The term tornado is used specifically of rotating or spiral storms in the South Indian Ocean, and those on the coasts of Africa and North America.

Tornado Alarm, a barometer which automatically sounds an alarm when there is a sudden change of atmospheric pressure, such as occurs in advance of a tornado, cyclone, or wind storm. This alarm is given some two minutes before the first blasts of a storm occur. Ordinary storms have no effect at all on the apparatus.

Tornos, Alberto de, an American educator; born in Carinena, Spain, April 9, 1821; settled in Porto Rico in 1845 and served there as director of the seminary of teachers. He removed to the United States in 1848, and was Professor of Languages at Spring Hill College, Ala., in 1848–1851. Later he accepted the chair of languages at the University of Louisiana, where he remained for many years. He died in New York city, March 22, 1887.

Toronto, a city and capital of the province of Ontario, Canada; on Lake Ontario. Its site is low, but rises gently from the water's edge to a height of about 100 feet. The bay of Toronto, an arm of Lake Ontario, on the S. of the city, affords a commodious and excellent harbor, capable of receiving the largest lake vessels.

Toronto has various manufacturing interests, including several engineering plants and iron foundries, soap works, an immense distillery, a number of breweries, rolling mills, car shops, tanneries, carriage factories, machine shops, cabinet factories, spice mills, car wheel works, pork packing plants, boot and shoe establishments, sash and door, and sewing machine factories, etc. The city has large facilities for an extensive lake traffic. There is regular steamboat connection with all lake ports as well as those on the St. Lawrence river, making the city one of commercial importance.

Toronto was founded in 1794 by Governor Simcoe. The town was captured in 1813 by the Americans under General Pike, who was killed during the attack. A great fire Apr. 19, 1904, destroyed $10,000,000 of property. Pop. 355,000.

Torpedo, a case filled with dynamite, gun cotton, or other high explosive, that may be exploded at the will of the controlling party, on land, in the air, or in the water, or by contact with the enemy's vessel. When torpedoes are of the movable kind they are called automobile torpedoes; those which are anchored or stationary are called mines, and may be either on land or in the water. When torpedoes are thrown through the air they are called aerial torpedoes.

The Whitehead torpedo, which has been adopted by all the leading governments of Europe and is in general use in the United States navy, is a cigar-shaped projectile with a little propeller at one end. The shell or case is of metal, from 15 to 25 feet long and from 8 to 15 inches in diameter. It is divided into three compartments. The first contains the high explosive. The middle compartment is a strong air chamber with air under a pressure of 1,000 to 1,500 pounds to the square inch. The third or aft compartment contains the propelling apparatus, which is run by the air from the second. These torpedoes are shot from tubes either forward, aft or midships of a war vessel by means of compressed air. They travel with the velocity of 20 to 30 knots an hour for about 800 yards. The torpedo is exploded by its impact against the sides of a ship. From 1877, when this torpedo first came into notice, till 1898, when the Spanish-American War broke out, there were only 12 instances where it was employed in actual warfare. In the Russo-Japanese War in 1904, they were employed by both sides, causing great destruction.

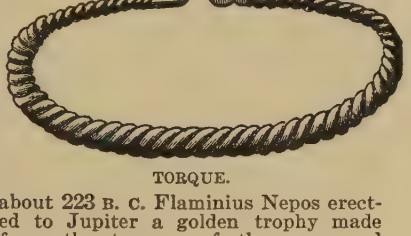
Other types of torpedoes are the Sims-Edison, the Victoria, the Patric, and the Nordenfeldt. See ELECTRIC TORPEDO. To protect ships from torpedoes, no plans seem more effective than the nets made of heavy metal which are suspended on booms from the ship's side when she is at anchor. When she is moving she throws out

her own torpedoes which explode those in the channel ahead.

Torpedo Boats, small vessels built for speed and fitted with tubes for firing torpedoes by either compressed air or gunpowder. They are of two classes: those with powerful engines designed to steal on an enemy under cover of darkness, and those which can be used on the surface or submerged to do their work unseen beneath the water. The torpedo boat destroyer does not differ essentially from the torpedo boat, except in its greater speed and its power, owing to its greater weight, to maintain that speed in the face of a considerable sea. Its armament is also heavier and its guns of longer range. In the Spanish-American War, Admiral Cervera had three torpedo boat destroyers in his ill-fated squadron and all were destroyed by the American ships, two of them, the "Pluton" and "Furor," at Santiago, by the converted yacht "Gloucester."

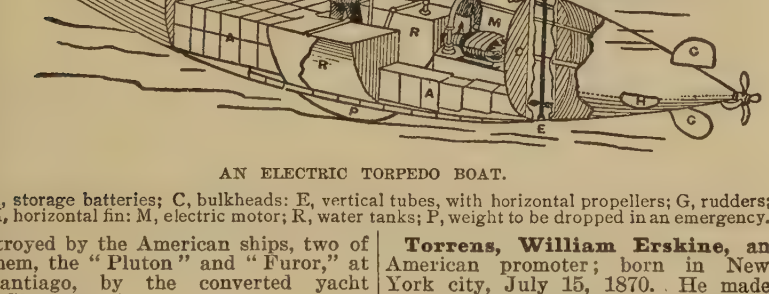
Torpedo-boat Destroyer, a torpedo boat of a most formidable kind, designed for the destruction of ordinary torpedo boats. The destroyers are usually armed with one 12-pounder gun and from three to five 6-pounder guns, besides their equipment of torpedoes, and carry a crew of four officers and about 40 men. They are capable of 30 knots an hour, and as they carry from 70 to 100 tons of coal, can make a voyage of 1,300 to 1,500 miles without recoaling.

Torque, in archæology, a twisted collar of gold, or other metal, worn around the neck, in ancient times by the people of Asia and the N. of Europe, and apparently forming a great part of the wealth of the wearer. Among the ancient Gauls gold torques appear to have been so abundant that



TORQUE.

about 223 B. C. Flaminius Nepos erected to Jupiter a golden trophy made from the torques of the conquered Gauls.



AN ELECTRIC TORPEDO BOAT.

A, storage batteries; C, bulkheads: E, vertical tubes, with horizontal propellers; G, rudders; H, horizontal fin: M, electric motor; R, water tanks; P, weight to be dropped in an emergency.

Torrens, William Erskine, an American promoter; born in New York city, July 15, 1870. He made a study of manufacturing methods and mill finance. In 1896 he was made foreign commissioner to South America for the National Association of Manufacturers of the United States, and in 1897–1899 was a special commissioner for the same to foreign countries. He traveled in every country of the world studying the opportunities for introducing American manufactures into each.

Torrey, Bradford, an American author; born in Weymouth, Mass., Oct. 9, 1843. He was educated in the public schools, taught two years, then entered business in Boston. In

1886 he became assistant editor of the "Youth's Companion." He was a close student of birds, and wrote largely on this subject for the magazines.

Torrey, John, an American botanist; born in New York city, Aug. 15, 1796; was graduated at the College of Physicians and Surgeons; practised in New York city, devoting his leisure principally to the study of botany. He was assistant surgeon in the United States army, and acting Professor of Geology, Mineralogy, and Chemistry at the United States Military Academy in 1824–1828; and Professor of Chemistry at Princeton College in 1830–1854. He was one of the founders of the New York Academy of Science (under the name of the New York Lyceum of Natural History) in 1817, and president of the Torrey Botanical Club in 1824–1826 and in 1838. When the Geological Survey of New York was organized in 1836 he was made botanist, and held that post for several years. In 1860 he presented his herbarium, containing about 50,000 specimens, to Columbia College. He died in New York city March 10, 1873.

Torrey, Joseph, an American clergyman; born in Rowley, Mass., Feb. 2, 1797; was graduated at Dartmouth College in 1816 and at the Andover Theological Seminary in 1819. He was Professor of Greek and Latin in the University of Vermont in 1827–1842 and of Philosophy in 1842–1867, and was president in 1862–1866. He died in Burlington, Vt., Nov. 26, 1867.

Torrington, a borough in town of same name in Litchfield county, Conn.; on the Naugatuck river and the New York, New Haven & Hartford railroad; 28 miles W. by N. of Hartford; is chiefly engaged in the manufacture of woolen, brass, and plated goods, needles, bicycles, and machinery. Pop. (1910) 15,483.

Torsion, in mechanics, the force with which a body, as a thread, wire, or slender rod, resists a twist, or the force with which it tends to return to its original state on being twisted. The limits of torsion within which the body will return to its original state depend on its elasticity, and the force with which it recovers its natural state is termed elasticity of torsion.

In surgery, the twisting of the cut end of a small artery in a wound or after an operation, for the purpose of checking hemorrhage. The bleeding vessel is seized by an instrument called torsion forceps, drawn out for about a quarter of an inch, and then twisted round several times.

Tortoise, in the wider sense, are sluggish reptiles, long-lived, and extremely tenacious of life under adverse surroundings, and have survived from remote antiquity while higher animal types, formerly contemporaneous with them, have become extinct, and have been succeeded by very different forms. They have an osseous exoskeleton, which is combined with the endoskeleton to form a kind of bony case or box in which the body of the animal is inclosed, and which is covered by a coriaceous skin, or, more usually, by horny epidermic plates. All the bones of the skull except the lower jaw and the hyoid bone are anchylosed. There are no teeth, and the jaws are cased in horn, so as to form a kind of beak. Tongue thick, and fleshy; heart three-chambered, ventricular septum imperfect. The lungs are voluminous, and respiration is effected by swallowing air. All will pass prolonged periods without food, and will live and move for months after the removal of the entire brain.

The most familiar example of true or land tortoises is the dry land terrapin of the Southern States. Like all the members of the family, it has a ouckler covering its back, and another beneath the abdomen, which together are called the shell; they are united and solid, and have openings in front and behind for the neck, limbs, and tail. The tortoise crawls very slowly, withdrawing its head and limbs within the shell when alarmed, and remaining passive till the danger has passed. It is found in the countries bordering on the Mediterranean, and is said to range as far N. as Switzerland and the S. of France. It is about 12 inches long; the scales are granulated in the center, streaked on the margins, and spotted or marbled with black and yellow. But the most interesting forms are gigantic tortoises formerly

found in great numbers in the Mascarene and Galapagos Islands. When discovered these islands were uninhabited by man or any large wild animal; the tortoises therefore enjoyed perfect security, and this, joined to their extraordinary longevity, accounts for their enormous size and their vast number. Five species of this group are known, and two of them, the gigantic land tortoise of Aldabra, and the Abingdon Island tortoise, grow to enormous size. A specimen of the first named weighed 870 pounds, and though known to be more than 80 years old, was still growing at the time of its death.

In military terms, a method of defense, used by the ancients, formed by the troops arranging themselves in close order and placing their bucklers over their heads, making a cover resembling a tortoise shell; a testudo.

Tortoiseshell, a popular name for the partial or entire outside covering of the tortoise and other allied chelonians. It is in the form of thin plates, united together at their edges, and corresponding, to a certain extent, with the underlying bones of the shell. The number, size, position, coloring, and ornamentation of these plates differ greatly even in genera and species. Also the name given to the horny epidermic plates of the hawk's-bill turtle. The largest of these plates are about 18 inches long by 6 broad, and rarely exceed one-eighth of an inch in thickness. Tortoiseshell is semi-transparent, and mottled with various shades of yellow and brownish-red. Its value depends on the brightness and form of the markings. Tortoiseshell is used for making combs, snuff boxes, and many fancy articles; as a material for inlaying ornamental furniture; as a veneer, and as a ground substance in which the precious metals and mother-of-pearl are inlaid.

Tortoiseshell Butterfly, the name given to two butterflies. The small tortoiseshell, one of the commonest of butterflies, is of a bright red-brown, and has on its costal margin three large black spots, beyond the third of which is a white one. The space between the first and third spots is yellow. The large tortoiseshell, the larva of which feeds on the elm, is much rarer. It is deep fulvous, with a broad, dark border. It has no white spot on the costa of the fore wings.

Torture, the infliction of pain. It has been largely used in many countries as a judicial instrument for extracting evidence from unwilling witnesses, or confessions from accused persons, and in the despotisms of the East is still so used; the callousness of torturers and tortured being almost equally remarkable. In ancient Athens slaves were regularly examined by torture. Under the Roman republic only slaves could be tortured; under the empire, torture, besides being much used in examining slaves, was occasionally inflicted even on freemen, to extract evidence of the crime of læsa majestas. Cicero and other enlightened Romans wholly condemned its use. Till the 13th century torture seems to have been unknown to the canon law; about that period the Roman treason law began to be adapted to heresy, the notions on which the ordeal was based contributing to promote its use. At a later period torture came to be largely employed by the Inquisition, and it was only in 1816 that it was prohibited by a papal bull. Its use was universal in the witchcraft trials, and accounts for the strange uniformity in confessions.

American laws do not permit torture in any form, but the victims of lynching are sometimes horribly tortured, and the infliction of torture is common in Spanish America. In China torture is an essential part of the penal system.

Tory, a political party name of Irish origin, first used in England about 1679, applied originally to Irish Revolutionary Catholic outlaws, and then generally to those who refused to concur in the scheme to exclude James II. from the throne. The nickname, like its contemporaneous opposite, Whig, in coming into popular use became much less strict in its application, till at last it came simply to signify an adherent of that political party in the State who disapproved of change in the ancient constitution, and who supported the claims and authority of the king, church, and aristocracy, while their opponents, the Whigs, were in favor of more or less radical changes, and supported the claims of the democracy. In modern

times the term has to some extent been supplanted by Conservative.

Totem, a rude picture of some natural object, as of a bird or a beast, used by the American Indians as a symbol and designation of a family or tribe. A similar practice has been found to prevail among other savage peoples, and some theorists have given it a very wide extension on purely conjectural grounds.

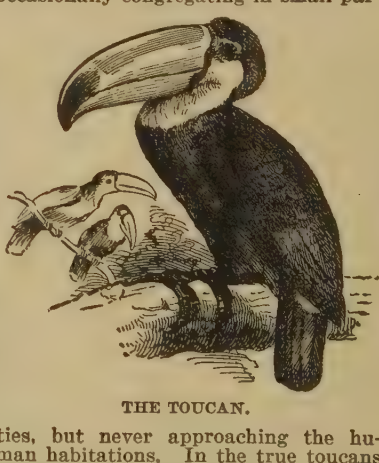
Totleben, or Todleben, Franz Eduard Ivanovitch, Count, a Russian general and military engineer; born 1818; died 1844. After leaving the schools of Riga he entered the College of Engineers at St. Petersburg, and served against the Circassians in 1848. In 1854 he took the chief part in the defence of Sebastopol, and after the peace of 1856 wrote a "Narrative of the War in the Crimea." During the Russo-Turkish War, Totleben was sent (in 1877) to reduce Plevna. The place was soon invested, and Osman Pasha, the Turkish commander, was compelled to surrender at discretion. For his services Totleben was created a count.

Tottel, Richard, an early English publisher; born about 1525; died in 1594. He became a member of the Stationers' Company, was the compiler of the famous "Tottel's Miscellany," and published many works of bibliographical importance. Among them are More's "Dialogue of Comfort" (1552); Lydgate's "Fall of Princes" (1554); and Hawes' "Pastime of Pleasure" (1555).

Totten, Charles Adelle Lewis, an American military officer; born in New London, Conn., Feb. 3, 1851. He was a graduate of the United States Military Academy, and for a number of years Professor of Military Tactics at Yale University. D. 1908.

Totten, Joseph Gilbert, an American military officer; born in New Haven, Conn., Aug. 23, 1788; was graduated at the United States Military Academy in 1805 and commissioned 2d lieutenant of engineers. In 1808-1812 he had supervision of the construction of Castle William and Fort Clinton in New York harbor. He was chief engineer of the army on the Niagara frontier during the War of 1812. In recognition of his service at Plattsburg in 1814 he was promoted lieutenant-colonel, and chief engineer of the United States army in 1838. About the same time he became supervisor and inspector of the United States Military Academy and discharged the latter duties till his death. When the war with Mexico broke out he was given charge of the engineering operations, and planned the siege of Vera Cruz, in recognition of which he was brevetted Brigadier-General. After the outbreak of the Civil War he was chief of the engineer bureau in Washington. He died in Washington, D. C., April 22, 1864.

Toucan, in ornithology, the popular name of any bird of the genus Rhamphastos. They are all natives of tropical America, and are easily distinguished by their enormous bill, irregularly toothed along the margin of the mandibles. All the species live in pairs in the shade of the forests, occasionally congregating in small parties, but never approaching the human habitations. In the true toucans the ground color of the plumage is generally black; the throat, breast, and rump adorned with white, yellow, and red; the body is short and thick; tail rounded or even, varying in length in the different species, and capable of being turned up over the back when the bird goes to roost. They are easily tamed, and bear confinement well, even in cold climates.



THE TOUCAN.

Toucey, Isaac, an American statesman; born at Newton, Conn., in 1796; died in 1869. He was educated for the profession of barrister, and was admitted to the bar at Hartford in 1818. He held several state appointments from 1822 to 1844, and in 1846 was elected Governor of Connecticut. In 1848-49 he was Attorney-General of the United States; from 1852-57 was United States Senator, and became Secretary of War under President Buchanan. He was accused of sympathy with the South during the Civil War by dispersing the ships of the United States Navy among distant stations.

Touch, in fine arts, the peculiar handling usual to an artist, and by which his work may be known. In music, the resistance made to the fingers by the keys of a pianoforte or organ. Also, the peculiar manner in which a player presses the keyboard, whether light, pearly, heavy, clumsy, firm, etc. In obstetrics, the examination of the mouth of the womb by actual contact of the hand or fingers.

In physiology, the sense through which man takes cognizance of the palpable properties of bodies. In a wide application, it is sometimes called the general sense, because by it we become conscious of all sensory impressions which are not the objects of smell, sight, taste, or hearing, which are called the special senses; even these, however, are held by modern biologists to be highly specialized forms of touch, which is often called the "mother of all the senses." In a more limited application, touch is applied to that modification of general sensibility which is restricted to the tegumentary surface or to some special portion of it, and which serves to convey definite ideas as to the form, size, number, weight, temperature, hardness, softness, etc., of objects brought within its cognizance. These sensations are received by the terminations of the cutaneous nerves, and thence conveyed to the brain. The sense of touch is distributed over the surface of the body, but is much more acute in some parts than in others, e. g., in the hand. It is also capable of great improvement and development; and the blind, who have to depend largely on the sense of touch for guidance, acquire extraordinarily delicate and accurate powers of perception with the fingers; difference of form, size, consistence, and other characters, being readily recognized that are quite inappreciable to those who possess good vision.

Touchstone, a variety of extremely compact siliceous schist, used for ascertaining the purity of gold and silver. Known also as black jasper and basanite. It was called Lydian stone, or lapis Lydia, by the ancients, because found in Lydia in Asia Minor. A series of needles (called touch-needles) of which the composition is known are used for comparison with the article to be tested. When the color of the streak produced by both the needle and the trinket on the stone is the same, the quantity of alloy they contain is supposed to be similar.

Touchwood, a soft white substance into which wood is converted by the action of such fungi as Polyporous igniarius. It is easily ignited, and continues to burn for a long time like tinder.

Toul, a town of France, department of Meurthe-et-Moselle, on the Moselle, 12 miles west of Nancy. It is strongly fortified, and has a fine Gothic cathedral, completed in the 15th century. Toul was taken in the Franco-German War after a siege of five weeks, September 23, 1870. Pop. 12,290.

Toulon, a French naval arsenal of the first class, in the department of Var; beautifully situated on a deep inlet of the Mediterranean, formed by the peninsula of Sepet; 40 miles S. E. of Marseilles. It is built at the foot of the Pharon Hills, which protect the city on the N., and are partly covered with fine forests. Defended by a strong citadel, girt with a double-bastioned wall, and surrounded by some 12 forts and redoubts, it is the principal naval station of France.

Toulouse, a city of France, the capital anciently of Languedoc, and now of the department of Haute-Garonne; 160 miles S. E. of Bordeaux and 466 S. by W. of Paris. It is situated in a broad and pleasant plain, on the right bank of the Garonne River. The city, with the exception of the S. faubourg, is not par-

ticularly handsome (though the broad quays have rather an imposing appearance), nor has it many fine public buildings. Toulouse manufactures engines, tobacco, brandy, etc., and carries on a great trade with Spain. Its liver and truffle pies are celebrated throughout the S. of France. Pop. 149,963.

Tourgee, Albion Winegar, an American jurist and author; born in Williamsfield, O., May 2, 1838; was graduated at Rochester University, N. Y., in 1862; admitted to the bar, 1864; served in the Civil War in the Union army, and was wounded on two occasions; at the close of the war commenced the practice of law at Greensboro, N. C., and at the Southern loyalist convention at Philadelphia, 1866, drew up the report on the condition of the States lately in revolt. In 1868 he became judge of the Superior Court of North Carolina. Besides compiling "A Code of Civil Procedure for North Carolina," he wrote "A Fool's Errand"; "Bricks Without Straw"; etc. In 1897 he was appointed U. S. consul at Bordeaux, France. He died May 21, 1905.

Tourgee, Eben, an American musician; born in Warwick, R. I., June 1, 1834. He established a musical institute in East Greenwich in 1859; studied in Europe in 1863; and on his return in 1864 founded a conservatory in Providence, R. I., which, on its removal to Boston, Mass., in 1867, became the New England Conservatory of Music. In 1872, on the foundation of the College of Music of Boston University, he became its dean. He was also director of the 20,000 singers forming the chorus of the Peace Jubilee in 1874, and the organizer and leader of the large choir of the Music Hall Society in 1876. Died in Boston, Mass., April 12, 1891.

Tourmanin, an ancient and now ruined town of Central Syria, notable for a curious assemblage of buildings comprising a church and an immense structure which seems to have been an ecclesiastical hostelry for lodging pilgrims. The church, restored from a careful study of the surviving portions, follows the general plan and arrangement of most Syrian churches of the 5th century. The façade has an imposing character, while the disposition of the lines gives to it a picturesque effect.

Tournament, an encounter between armed knights on horseback in time of peace, as an exercise of skill (which was rewarded by honorary distinctions), and usually an adjunct of some great event, as a royal marriage, etc. The tournament was one of the most cherished institutions of the Middle Ages, furnishing, as it did, an exciting show, and giving the combatants an opportunity of exhibiting their skill, courage and prowess before their friends. The regulations which governed these displays were propounded by the sovereign and enforced by kings-at-arms and heralds. They were usually held by the invitation of some prince, which was proclaimed throughout his own dominions, and frequently also at foreign courts, so that parties from different countries might join. They differed from jousts, in that the latter were merely trials of military skill between one knight and another. The arms employed were usually lances without heads, and with round braces of wood at the extremity, and swords without points and with blunted edges. Occasionally, however, the ordinary arms of warfare were used, and it not infrequently happened that the tournament ended in a hostile encounter. Certain qualifications of birth were required for admission to the tournaments. The place of combat was the lists, a large open space surrounded by a rope or railing, and having galleries erected around for the spectators, the heralds, and the judges. The tilting armor was of light fabric, and generally adorned with some device of a lady's favor. The prizes were delivered to the successful knights by the queen of beauty, who had been chosen by the ladies or appointed by the king. On the second day there was often a tournament for the squires, and on the third a melee of knights and squires in the lists.

In modern usage, a competition or contest of skill, in which a number of individuals take part; as, military tournament; cycling tournament; billiard tournament, etc. They are quite common in the United States.

Toussaint l'Ouverture, Dominique Francois, one of the liberators of Haiti; born a slave in 1743; joined the negro insurgents in 1791; and in 1795, for his services against the Spaniards, was made by the French Convention general of brigade, in 1797 general of division, and a little later chief of the army of Santo Domingo. Soon after he cleared the British and Spaniards entirely out of the island, quickly restored order and prosperity, and about 1800 began to aim at its independence of France. Bonaparte having, after the peace of Amiens, proclaimed the reëstablishment of slavery in Santo Domingo, Toussaint declined to obey, whereupon General Le Clerc was sent with a strong fleet to compel him. The liberator soon submitted, but was treacherously arrested, sent to France, and flung into a damp, dark dungeon at Fort de Loux, near Besancon, where he died after 10 months, April 27, 1803.

Tower, Charlemagne, an American diplomatist; born in Philadelphia, Pa., April 17, 1848; was graduated at Harvard University in 1872, and admitted to the bar in 1878. He acquired large business interests and became an officer and director in several corporations; and was identified with the Academy of Natural Sciences and other similar organizations. In 1897 he was appointed United States minister to Austria-Hungary, in January, 1899, was made ambassador to Russia, and from 1902 to 1908 was ambassador to Germany.

Tower, Zealous Bates, an American military officer; born in Cohasset, Mass., Jan. 12, 1819; was graduated at the United States Military Academy in 1841; served in the Mexican War and won distinction at Cerro Gordo, Contreras, and Chapultepec. In 1848–1861 he was engaged in the building of defenses on the Pacific coast; was promoted major in August, 1861; fought in the first battle of Bull Run and took part in the Virginia campaigns of Generals Banks and Pope; was severely wounded at the second battle of Bull Run; and for bravery in that action was brevetted Major-General; was promoted lieutenant-colonel in November, 1865, and colonel in January, 1874; and was retired in 1883. He died in Cohasset, Mass., March 21, 1900.

Tower of London, the most ancient, and historically the most interesting pile in the English metropolis; a mass of buildings on the N. side of the Thames, immediately to the E. of the ancient city walls, its ramparts and gates surrounded by a dry ditch in pentagonal shape; in outer circuit measuring 1,050 yards. Within this the whole of the buildings are encircled by a double line of walls and bulwarks, in some places 40 feet high and 12 feet thick; the space between the walls being known as the outer ward, and the interior as the inner ward. The inner ward was formerly the royal quarter. The outer ward was the folk's quarter. The inner ward is defended by 12 massive and conspicuous towers, stationed at unequal distances, and possessing distinctive names and formations. In the center, rearing its head proudly above them all, stands the main quadrangular building and great Norman keep known as the White Tower. To the N. are the barracks, and to the N. W. the Church of St. Peter ad Vincula. The entrance to the buildings is on the W. side by the Lion's Gate.

For centuries the Tower was a palace, a prison, a fortress, and a court of law. Here the Plantagenet kings held their gay tournaments, magnificent revels, and pompous religious ceremonials. Here also tragedy succeeded tragedy, and the innocent blood of many of England's bravest and most beautiful poured forth in a cruel stream. Wise statesmen, fair queens, child princes, noble warriors and priests were slain, their only crimes in many cases being their rank, their patriotism, and their faith. "No sadder spot on earth," says Macaulay; "in England. . . . death is there associated . . . with whatever is darkest in human nature and in human destiny, with the savage triumph of implacable enemies, with the inconstancy, the ingratitude, the cowardice of friends, with all the miseries of fallen greatness and of blighted fame."

The Tower is now chiefly used as an arsenal, and has a small military gar-

rison of the yeomen of the guard. The governorship is still a post of distinction.

Towle, George Makepeace, an American author; born in Washington, D. C., Aug. 27, 1841; was graduated at Yale University in 1861, and at Harvard Law School in 1863. He was United States consul at Nantes, France, in 1866–1868; and at Bradford, England, in 1868–1870. He died in Brookline, Mass., Aug. 10, 1893.

Towler, John, an American educator; born in Rathmell, England, June 20, 1811; was educated at Cambridge University, England; removed to the United States and was made Professor of Modern Languages at Hobart College, Geneva, N. Y., in 1850. Five years later he was graduated at the Medical Department of that institution; was there Professor of Chemistry, Toxicology, and Medical Jurisprudence in 1853–1873. He was United States consul to Trinidad, W. I., in 1882–1886. In the latter year he settled in Orange, N. J., and devoted his time to literary work.

Townsend, Charles Henry Tyler, an American entomologist; born in Oberlin, O., Dec. 5, 1863. In 1894–1898 he was temporary field agent in the division of entomology of the United States Department of Agriculture in Texas, Mexico, and New Mexico. In 1900 he was made acting custodian and special collector of customs and disbursing agent in El Paco, Tex. He was the author of some 300 titles on biogeography and economic and systematic entomology.

Townsend, Edward Davis, an American military officer; born in Boston, Mass., Aug. 22, 1817; was graduated at the United States Military Academy in 1837. In March, 1865, he was brevetted Major-General U. S. A. for "faithful, meritorious, and distinguished services in the adjutant-general's department during the rebellion." He was placed on the retired list in 1880. During all of the Civil War he was the chief executive officer of the army which brought him probably more than any other military officer into close personal contact with President Lincoln and Secretary Stanton. He died in Washington, D. C., May 11, 1893.

Townsend, Edward Waterman, an American author; born in Cleveland, O., Feb. 10, 1855. His stories and sketches, first printed in the daily journals, were collected under the titles: "Chimmie Fadden, Major Max, and Other Stories," etc.

Townsend, George Alfred, pseudonym Gath, an American journalist; born in Georgetown, Del., Jan. 30, 1841. He became a journalist in 1860; was special correspondent for the New York "Herald" and New York "World" in 1860–1864; afterward public lecturer, and war correspondent. He is author of "Real Life of Abraham Lincoln," "Washington Outside and Inside," etc.

Townsend, Luther Tracy, an American clergyman; born in Orono, Me., Sept. 27, 1838; was graduated at Dartmouth College in 1859 and at Andover Theological Seminary in 1862. He then enlisted in the 16th New Hampshire regiment and served first as a private and afterward as adjutant; was ordained in the Methodist Church in 1864. He was Professor of Hebrew, and Chaldee and New Testament Greek at the Boston University in 1868–1870; Professor of Sacred Rhetoric and Practical Theology in the same institution in 1872–1893; and then became professor emeritus.

Townshend, Charles, an English statesman; born in 1725; entered the House of Commons in 1747; and became a commissioner of trade and plantations in 1749. He was a lord of the admiralty in 1754, member of the privy-council in 1756; secretary of war in 1761–1763; chancellor of the exchequer in 1766. He supported Granville's stamp act (1765), and introduced the celebrated resolutions for taxing the American colonies (June 2, 1767). From so often changing his political opinions he was known as the "weathercock," but he had a great reputation for oratory and wit. He died in Oxfordshire, Sept. 4, 1767.

Township, the corporation of a town; the district or territory of a town. Also, a territorial district, subordinate to a county, into which many of the States are divided, and comprising an area of 5, 6, 7, or perhaps 10 miles square, the inhabitants of

which are invested with certain powers for regulating their own affairs, such as repairing roads, providing for the poor, etc.

Toxicology, that branch of medicine which treats of poisons and their antidotes, or of the morbid and deleterious effects of excessive and inordinate doses and quantities of medicine. See POISON.

Toy, Crawford Howell, an American scholar; born in Norfolk, Va., March 23, 1836; was graduated at the University of Virginia in 1856; studied at the University of Berlin in 1866; and became Professor of Hebrew at Harvard University in 1880.

Trabue, Isaac Hodgen, an American lawyer; born in Russell co., Ky., March 25, 1829. He recruited a company of soldiers for the Union army in June, 1861, and served in the war first as captain and later as colonel. He owned a large number of slaves, the male members of whom he put to work in the commissary department while the women were sent to hospitals as nurses. He became a well known chess player, and in 1883 beat Zuckertort, the champion of the world. Later he established the rules governing four-handed chess.

Tracery, in architecture, the species of pattern work formed or traced in the head of a Gothic window by the mullions being continued, but diverging into arches, curves, and flowing lines enriched with foliations. The styles varied in different ages and countries, and are known as geometrical, flowing, flamboyant, etc. Also the subdivisions of groined vaults, or any ornamental design of the same character for doors, paneling, ceilings, etc.

Trachea, or **Windpipe,** the tube extending from the larynx, or organ of the voice, and from the level of the fifth cervical vertebra to the third dorsal vertebra, at which latter point the trachea bifurcates or divides into two main bronchi or divisions, one supplying each lung with air tubes. The average length of the trachea is 4½ inches, and its diameter about three-fourths of an inch, the latter measurement being greater in males than in females. The trachea consists of fibrous membranes united by elastic cartilaginous rings, rendering the tube flexible and patent. The cartilages are circular but imperfect rings, each being joined posteriorly by a fibrous membrane. They vary from 16 to 20 in number. The muscular fibers of the trachea are of longitudinal and transverse arrangement. The trachea is lined with mucous membrane, the epithelium of which is ciliated. The trachea receives blood from the inferior thyroid arteries, and nerves from the pneumogastric and recurrent trunks, and also from the sympathetic system. The right bronchus, or one of the main divisions of the trachea, is wider and shorter than the left. It enters the lung opposite the fourth dorsal vertebra. The left bronchus is smaller and more oblique than the right, and enters the left lung at the level of the fifth dorsal vertebra. Foreign bodies falling into the trachea most frequently enter the right bronchus, because of the larger size of the latter, and because of the more oblique position of the left bronchus.

Tracing Paper, transparent paper which enables a drawing or print to be clearly seen through it when laid on the drawing, so that a pen or pencil may be used in tracing the outlines of the original. It is prepared from smooth, unsized white paper rendered transparent by a varnish made of oil of turpentine with an equal part of Canada balsam, nut oil, or other oleoresin.

Tractarianism, in Church history, the name given to a movement in the Church of England, originating in the University of Oxford in the year 1833. Its leaders were John Henry (afterwards, Cardinal) Newman, Dr. E. B. Pusey, John Keble, and R. H. Froude. The name of Tractarians was given them, because their views were propagated in a series of publications entitled "Tracts for the Times." The object of the tracts, in general terms, was to show that many doctrines held by the Roman Catholic Church, but repudiated by Evangelical churchmen, were true. Among them, that the Sacraments, and not preaching, were the means of divine grace; that men became members of Christ's kingdom by baptism, renewed from time to time by the Communion; and that the bread and wine thereat, when blessed by the priest became the actual body

and blood of Christ. They also contended for the Apostolic succession. The teaching of Newman in Tract No. 90 that a clergyman might hold those doctrines consistently with his subscription to the thirty-nine Articles of the Church of England, caused widespread uneasiness and finally led the Bishop of Oxford to interdict the further publication of the Tracts. Newman, thereupon, resigned the incumbency of St. Mary's, Oxford, and his other places in the English Church, and, in September 1845, entered the Roman Catholic Church. His example was followed by many of his disciples, though Dr. Pusey remained in the Church of England and continued to foster the movement there. He differed from Newman in rejecting the doctrine of Purgatory, the worship of the Virgin Mary, the invocation of saints and the acceptance of Papal authority.

Traction, the act of drawing a body along a plane, usually by the power of men, animals, or steam, as when a vessel is towed upon the surface of water, or a carriage on a road or railway. The power exerted in order to produce the effect is called the force of traction; the line in which this force acts is called the line of traction; and the angle which this line makes with the plane along which the body is drawn by the force of traction is called the angle of traction. Also the adhesive friction of a wheel on the rail, a rope on a pulley, etc. The tractional surface of a driving wheel is the face of its perimeter.

Traction Engine, a locomotive engine for drawing heavy loads on common roads, or over arable land, as in agricultural operations. Some of the earliest locomotive engines, as Murdock's, were designed for this very purpose.

Tracy, Benjamin Franklin, an American lawyer; born in Owego, N. Y., April 26, 1830. He raised the 109th and 137th Regiments of New York volunteers in July and August, 1862; took a distinguished part in the operations at the front in 1862–1865, and in the latter year was promoted Brigadier-General of volunteers for gallantry in battle. He was United States district attorney for the Eastern District of New York in 1866–1873; judge of the Court of Appeals in 1881–1882; Secretary of the Navy in the cabinet of President Harrison in 1889–1893; president of the commission which drafted the charter for Greater New York in 1895–1896; and unsuccessful candidate for mayor under the new charter in 1897.

Trade, Board of, in the United States, a body of men selected from among the business men of a city, and appointed to represent and act for the whole business community in advancing and protecting their interests.

Trade Dollar, a silver dollar of the United States, containing 378 troy grains of silver and 42 troy grains of alloy. Dollars of this description, issued under Act of Congress of Feb. 12, 1873, were legal tender to the amount of $5. Those issued under the Act of July 22, 1876, possessed no legal tender power. The trade dollars were intended for trade with countries doing business on a silver basis; hence the name.

Trade-mark, a peculiar mark used by a manufacturer to distinguish his own productions from those of other persons. Such marks can now be registered and protected in all the more important countries, and between these also there is a general reciprocity as to protection. Regarding trade-marks many nice questions may arise, and it is not easy to define what constitutes a valid trade-mark. A mere descriptive title or a geographical name will not constitute a proper trade-mark; what it is best to select is some invented word or words, or a word or words having no reference to the character or quality (though suggestive of excellence), some distinctive device, figure, emblem, or design, or a written signature or copy of such. Any mark or name calculated to mislead as to the real nature or origin of the goods will be vitiated. In the United States trade-marks are registered at the Patent Office, at a fee of $25, the right running for 30 years.

Trade Protection Societies, associations composed of merchants, tradesmen, and others, formed for the promotion of trade and for protecting the individual members from losses in their business transactions; one of

the earliest being the London Association of Guardians for the Protection of Trade, established in 1776. In 1871 the London Board of Trade granted a license for incorporation to one under the Companies Acts, 1862–1867. The operations of these societies used to be confined chiefly to the compilation of registers of bankruptcies, insolvencies, and private settlements with creditors. Each member informed the secretary of the name, occupation, and address of the customers who became insolvent, with the amount of dividend their estate yielded; and latterly, whether the insolvency was due to recklessness and extravagance, or was innocent misfortune. Special attention was directed to the exposure of swindlers and persons who had been guilty of fraud or embezzlement. The information accumulated in the registers, though always accessible to such members as made inquiry at the offices of the society, was kept strictly private from all others. But the extraordinary development of commercial enterprise which took place in the early part of the 19th century added a new stimulus to the trade protection movement. The registers which the societies now printed and circulated among their members contained transcriptions from the following public records — viz., the records of the bankruptcy courts, registers of assignments and trust-deeds, bonds or warrants of attorney, bills of sale, judges' orders, protested bills, and decrees in absence. The societies also undertook to recover past-due bills and accounts for their members, to investigate the circumstances connected with bankruptcies and insolvencies, collect dividends, and perform the general agency business of their members — the whole being done under the direction of a committee appointed for this purpose. Committees were also appointed to scrutinize all measures affecting trade and commerce which might be introduced into Parliament, and to promote legislation favorable to the commercial interest. The sphere of action of trade protection societies thus rapidly widened. The older societies established offices and branches throughout the country; new societies sprang up in the large provincial cities, which in their turn opened agencies and branches in other towns and villages; and the various societies being in communication, the machinery of the whole is available for the purposes of each. In 1852 the various societies formed themselves into an association, which now includes upward of 60 societies. An annual meeting of delegates from all these is held in London, at which matters affecting trade are discussed.

In the United States, especially in the large cities, there are numerous organizations to secure the foregoing results, although much reliance is placed by business men on the reports of the various general and special commercial agencies.

Trades Union, or **Trade Union,** an organized body of workmen in any trade, manufacture, or industrial occupation associated together for the promotion of their common interests. Specific aims may vary in different unions, but generally speaking the aims of these organizations are the provision and distribution of funds, and by other means to regulate the conditions of labor in the trades included in the society, and the relation of its members with them; to promote the general and material welfare of its members; to assist them when out of work and in distressed circumstances; to support them in case of sickness, accident, superannuation, and loss of tools by fire; to provide for their burial and the burial of their wives; and to aid other trade societies having for their objects, or one of them, the promotion of the interests of workmen. In the United States trades unions are numerous, scarcely any form of labor being without organized association for mutual aid and protection. Of late years the trades unions have gained the respect of all fairminded employers, and arbitration is gradually taking the place of strikes.

Trade Wind, in meteorology, in the plural, certain ocean winds, blowing constantly in one direction or nearly so, that can be calculated on beforehand by the mariner, and are therefore beneficial to trade. They exist on all open oceans to a distance of about 30° N. and S. of the equator, blowing from about the N. E. in the Northern, and from the S. E. in the Southern

Hemisphere. Where they meet they neutralize each other, creating a region of calm N., and the same distance S. of the equator. Atmospheric air expands by heat, and, expanding, naturally ascends, its place being supplied by a rush of colder and consequently of denser air beneath. The process is continually in progress, to a great extent, everywhere throughout the tropics, but especially above the land. Neither the direction nor the area of the trade winds remains fixed. Since they supply the place of rarefied air, which is ascending, they must follow the movement of the sun, blowing to the point of greatest rarefaction, as a cold current coming through a keyhole goes to the fire. Hence, the area of the trade winds extends from two to four degrees farther N. than usual when the sun is at the Tropic of Cancer, and the same number of degrees farther S. than usual when he is at the Tropic of Capricorn. The trade winds were not known till Columbus' first voyage. They are most marked on the Atlantic and Pacific Oceans, but become modified in the vicinity of land, so as to lose their distinctive character. In the Indian Ocean and in Southeastern Asia they become altered into monsoons.

Tradition, in its widest signification, whatever statements were transmitted orally from one generation to another. In theology, the teaching of early divines, not in the New Testament, but said to have been derived from Christ or his apostles.

Trafalgar, a low and sandy cape on the S. W. coast of Spain, at the N. W. entrance of the Strait of Gibraltar. The famous naval battle in which Nelson lost his life, after defeating a larger French and Spanish fleet under the command of Villeneuve and Gravina, was fought off this cape, Oct. 21, 1805. The Franco-Spanish fleet lost 19 ships out of 33.

Tragacanth, in botany, a kind of gum obtained from various species of Astragalus. Most of the real tragacanth comes from a bush about two or three feet high, with pinnate leaves having six, seven or eight pairs of pointed leaflets. It is a native of Northern Persia, Armenia, and Asia Minor. The gum exudes during summer in tortuous streams, which are allowed to dry on the plant.

Tragedy, a dramatic poem representing an important event, or a series of events, in the life of some person or persons, in which the diction is elevated, and which has generally a tragic or fatal catastrophe; that species of drama which represents a tragical situation or a tragical character. Tragedy originated among the Greeks in the worship of Dionysus.

Tragopan, a name of certain beautiful birds, closely allied to the common fowl. A common species is a native of the Himalayas. The plumage is spotted, and two fleshy protuberances hang from behind the eyes. When the bird is excited it can erect these protuberances till they look like a pair of horns. A large wattle hangs at either side of the lower mandible.

Traill, Catherine Parr (Strickland), an English writer; born in Kent, England, Jan. 9, 1802. She removed to Canada in 1833, and made her home for many years at Lakefield, Ont. She died in Lakefield, Ont., Canada, in August, 1899.

Trajan, in full, **Marcus Ulpius Trajanus,** Roman emperor; born in Spain A. D. 52; the son of Trajanus, a distinguished Roman commander under Vespasian. He served against the Parthians and on the Rhine, where he acquired so high a character that Nerva adopted him and created him Cæsar in 97. Nerva died in 98, and Trajan, who was then in Germany, peaceably succeeded to the throne. In 103 he wrote the famous epistle to Pliny, governor of Pontus and Bithynia, directing him not to search for Christians, but to punish them if brought before him; and on no account listen to anonymous charges. For some years Trajan occupied himself with the work of administration, but in 114 he set out on an expedition against the Parthians which resulted in the reduction of Armenia to a Roman province. He is said to have been sensual in his private life, but his good qualities as a ruler were such that even 250 years after his death senators greeted a new emperor with the wish that he might be more fortunate than Augustus and better than Trajan. He died in Cilicia in A. D. 117.

Trajan's Column, a celebrated monument in Rome, Italy, erected by the Roman Senate and people in honor of the emperor in A. D. 114. It still stands in the Forum of Trajan, and is constructed entirely of marble. The shaft is 87 feet high, and the total height of pedestal and statue, 147 feet. Around the column runs a spiral band 3 feet wide and 660 feet long, covered with well preserved reliefs from Trajan's war with the Dacians, comprising, besides animals, etc., 2,500 human figures, the size of which, 2 feet below, gradually increases upward. Beneath the column Trajan was interred, and on it was placed his statue, for which that of St. Peter has been substituted. A staircase in the interior of 184 steps leads to an open platform at the top. The reliefs, which are reproduced in casts preserved in the Lateran, are invaluable for the light they throw on Roman costume.

Trajan's Wall, a line of fortifications in the S. of the Dobrudja; extends from the Danube, at Czernavoda, to a point on the Black Sea, near Kustendji, a distance of 37 miles. It consists of a double (in some parts a triple) line of earth ramparts about 10 feet high. Another wall of the same name, constructed by a Roman legion A. D. 105–155, stretches from the Pruth E. to the Black Sea, and is included in the territory "restored" to Russia by the treaty of Berlin, July 13, 1878.

Tramway, a narrow smooth, continuous track, prepared to form a course in which the wheels of any carriage or wagon, having the gauge of the two parallel lines, may run more smoothly and with less friction than on the surface of an ordinary road.

In the United States the motive power of what are here called street railroads has been successively horses, under-ground cable, electrical storage battery, over-head trolley, and underground electricity.

Trance, a condition closely allied to sleep, but differs from it as regards duration and profound insensibility to external impressions. Death trance is, according to Dr. Mayo, a positive status; a period of repose, the duration of which is sometimes definite and predetermined, though unknown. "The basis of death trance is suspension of the action of the heart, of breathing, and of voluntary motion; generally, likewise, of .feeling and intelligence; and the vegetative changes in the body are suspended. With these phenomena is joined loss of external warmth, so that the usual evidence of life is gone." There are no well-authenticated cases on record in which trance has simulated death for any length of time, and the above opinion has many opponents.

Transcaspian Railway, a noteworthy railway, starting from Uzna Ada on the Caspian, was opened as far as Merv in 1886, to Samarkand in 1888, and by 1900 was extended to Tashkend and Andijan. The Amu-Daria (Oxus) is crossed by a wooden bridge 6,804 feet in length.

Transcaucasia, the tract of territory belonging to Russia, and extending between the Caucasus on the N. and Turkey in Asia and Persia on the S. The provinces on both sides of the Caucasus, with the added Armenian districts, constitute Caucasus or Caucasia in the widest sense, and are under one central authority, with 10 minor provinces; but the territory is sometimes divided into North Caucasus, Transcaucasia, and Armenia. Transcaucasia comprises seven provinces; total area 94,182 square miles; pop. 5,516,139.

Transcendentalism, in philosophy, a term applied to the Kantian philosophy from the frequent use of the term transcendental by Kant, who gave it a meaning quite distinct from that which it till then bore. The Transcendentalism of Kant inquires into, and then denies, the possibility of knowledge respecting what lies beyond the range of experience. Kant distinguished knowledge into a priori (not originating from experience) and a posteriori (derived from experience), thus giving to the phrase a priori knowledge a meaning different from that which it had borne in philosophy since the days of Aristotle. Transcendental philosophy is a philosophy of the merely speculative pure reason; for all moral practice, so far as it involves motive, refers to feeling, and feeling is always empirical.

Transept, in architecture, that part of a church which is placed be-

tween the nave and the choir, extending transversely on each side, so as to give to the building the form of a cross.

Transfiguration, Feast of the, a festival instituted in honor of the Transfiguration of Christ; is one of the 12 great feasts which come next after Easter in dignity. In the Anglican Church it is only a black-letter feast. It is commonly said to have been instituted in the West by Pope Calixtus III. (1455–1458), but is mentioned in the 9th century. Both Greeks and Westerns keep it on Aug. 6.

Transfusion of Blood, a surgical operation by which blood is conveyed directly from the body of one person to that of another. At the present day the operation is chiefly restricted to cases of profuse hemorrhage in connection with labor, though it is sometimes practised in cases of sudden and profuse hemorrhage from other causes.

Transit, in astronomy, the passage of a heavenly body over the meridian. Also the passage of one of the inferior planets, Mercury or Venus, over the sun's disk. Mercury being so near the sun, and so difficult to observe with accuracy, its transits are not nearly so important to astronomers as those of Venus.

In engineering, a portable instrument resembling a theodolite, designed for measuring both horizontal and vertical angles. It is provided with horizontal and vertical graduated circles, one or two levels, and a compass, and is mounted upon a tripod stand.

Transit Instrument, an instrument designed accurately to denote the time when a heavenly body passes the meridian. It consists of a telescope supported on a horizontal axis, or pivots. The telescope has a series of parallel wires crossing its object glass in a vertical direction. When a star, designed to be the subject of observation, is seen approaching the meridian, the observer looks at the hour and minutes on a clock placed at hand for that purpose. He then notes the passage of the star across such wire, listening at the same time to the clock beating seconds. The exact time at which the star passes each wire is then noted and the mean between the time of passing each two wires equidistant from the center being taken, gives a very close approximation to the truth. The transit instrument is the most important of what may be called the technical astronomical instruments. The smaller and portable kinds are used to ascertain the local time by the passage of the sun or other object over the meridian, while the larger and more perfect kinds, in first-class observatories, are used for measuring the positions of stars, for forming catalogues; its special duty being to determine with the greatest accuracy the right ascension of heavenly bodies.

Transleithania, the Austro-Hungarian region east of the Leitha River, as opposed to Cisleithania, the region west of the Leitha.

Transmigration, in comparative religions, metempsychosis; the doctrine of the passage of the soul from one body into another. It appears among many savage races in the form of the belief that ancestral souls return, imparting their own likeness to their descendants and kindred, and Tylor thinks that this notion may have been extended so as to take in the idea of rebirth in bodies of animals. In this form the belief has no ethical value. Transmigration first appears as a factor in the gradual purification of the spiritual part of man, and its return to God, the source and origin of all things, in the religion of the ancient people of India, whence it passed to the Egyptians, and, according to Herodotus, from them to the Greeks. In modern times Lessing held it and taught it; it formed part of the system of Swedenborg.

Transmission of Power, the supplying of power for doing work at a distance from the engine or other source of energy. An ordinary tow rope evidently fulfills such a function; and in a wide sense all forms of connecting rods, belting, and similar gearing do the same. The revolving shaft of a screw steamer transmits rotary motion through a considerable distance; but for long distance transmission ordinary mechanical devices, if they do not altogether fail, lose greatly in efficiency. In a series of shafts geared one to another by beltings there must

be considerable loss through slipping. In the pneumatic dispatch and in boring compressed air has been successfully applied as a transmitter of power. Cable cars also form a good illustration. It is in electricity, however, that we find the most promising agent for indefinite transmission of power. Thus a dynamo-electric machine may be worked by a waterfall; its voltage or potential may be transmitted along wires to distant stations, and there transformed into currents capable of driving an electric motor and keeping a whole factory in operation. See ELECTRIC TRANSMISSION.

Trans-Mississippi and International Exposition, a fair held in Omaha, Neb., June 1,–Nov. 1, 1898, to exhibit primarily the products, manufactures, and resources of the Middle West. The exposition was a great success, industrially and financially.

Transport, a ship or vessel employed by a government for carrying soldiers, warlike stores, or provisions from one place to another. At the beginning of the Spanish-American War the United States had no ships of this class. A number of coastwise crafts were purchased and hastily transformed into transports on which troops were shipped to Manila and other points. Although so hastily fitted up, they proved adequate. When the war closed the United States government fitted up a number of these vessels as model transports. They have every convenience and comfort, including gymnasiums, bathrooms, hospitals and electric lights, a distilling apparatus, and a large refrigerating plant. The space between decks is supplied with cooled air from a large ventilating plant.

Trans-Siberian Railway, a railway system of Russia, extending from St. Petersburg to Port Arthur. The entire distance from St. Petersburg to Vladivostok is 6,677 miles; the fare, first-class, $128.75, second-class, $87.55, third-class, $46.35; and the time of the journey about 27 days. Connected with the Chinese railway system, a direct service from Paris to Peking, arranged for May 1, 1904, was interrupted by Russo-Japanese War.

Transubstantiation, the idea that in the holy sacrament the bread and wine become the actual body and blood of Christ. The doctrine is an article of the Roman Catholic faith and has been a subject of religious controversy ever since the Middle Ages.

Transvaal, a former Boer republic, later a British colony, and since 1910 a province in the Union of South Africa; lying between the Vaal river, which forms the greater part of its S. boundary, and the Limpopo river, which separates it from Rhodesia and Bechuanaland; area, 113,642 square miles; pop. 1,354,200, of whom 300,225 are whites and 1,030,029 aborigines; capital, Pretoria, white pop. 21,161. Prior to annexation to Great Britain, it was ruled by a president elected for five years, only native Boers having the franchise; and a legislature of two houses, each of 27 members, elected for four years. The president had a council of four official members. One-third of the population is estimated to be engaged in agriculture, the lands of the colony generally, outside the mining districts, being extremely productive, and the demand for farm products in the mining regions very great, even in excess of the local products at the present time. From the establishment of the republic trouble arose with the natives around them, and during one of these disturbances the British intervened in 1877 and annexed the territory. The Boers, however, rose in rebellion in 1880, and after a short war, in which the British were worsted, the independence of the country, subject to the "suzerainty" of the British crown, was again recognized. In 1884 a new convention was signed giving the Transvaal independence in the management of the internal affairs; but placing certain restrictions on its authority to make treaties with foreign powers. In 1886 gold was discovered.

In 1899 trouble again arose between the Transvaal government and the Uitlanders. The latter sent numerous petitions to the Queen of England to help them in their contentions against the Boers. A conference was arranged between President Kruger and Sir Alfred Milner, the British high commissioner at Cape Town, which was held May 31, 1899, at the capital of the Orange Free State; but it failed to

yield any benefits as Kruger declined to make the so-called "reforms" that Milner demanded, and Milner declined to submit disputes to international arbitration in the way Kruger suggested. The chronic source of trouble in the Transvaal was the fact that the Uitlanders were denied any voice in the direction of affairs, although paying seven-eighths of the taxes, the dynamite tax and monopoly created by the Boer authorities, also being excessive.

On Oct. 10, 1899, the Transvaal government sent an ultimatum to Great Britain demanding the withdrawal of all her troops in the Transvaal. The reply to this being unsatisfactory, the Transvaal declared war Oct. 11, 1899, the Orange Free State supported its sister republic, and the next day a Transvaal force invaded Natal. Severe British reverses were followed by the advent of Generals Roberts and Kitchener, and the capture of Pretoria, which took place on June 5, 1890. President Kruger fled to Europe, but the struggle was still carried on with great bravery. On Sept. 3, the South African (Transvaal) republic was officially annexed by Great Britain under the name of the Transvaal Colony, and on Dec. 14, Sir Alfred Milner was appointed its administrator. The war came to a conclusion at length in 1902 by honorable surrender on the part of the Boers, terms of peace being signed on May 31, of that year, and then British and Boers strove heartily to efface the desolation caused by war. See South Africa, Union of.

Transvaal War, a war between the (then) South African Republic and Great Britain in 1880–1881. The Boer victory at Majuba Hill, Feb. 27, 1881, was soon followed by peace.

Trap, a term rather loosely and vaguely applied by the earlier geologists to some or all of the multifarious igneous rocks that belong to the palæozoic and secondary epochs, as distinct from granite on the one hand, and the recent volcanic rocks on the other. Trap rocks often assume a terraced appearance, whence their name from trappa, the Swedish for stair.

Trapa, in botany, the water caltraps, floating plants, with the petioles tumid in the middle, and clustered leaves, those under water cut into capillary segments. They are found in temperate Europe, Siberia, India, Cochin China, etc. One species is the tribulus of the Romans, and the nuts are sold in the markets of Venice (where they are known as Jesuit's nuts) and other parts of Italy. They are called water-chestnuts in France, and are ground into flour, and made into bread, throughout the South.

Trapezium, as defined by Euclid, any quadrilateral except a square, an oblong, a rhombus, and a rhomboid. Later Greek geometers seem to have used the word in the more restricted sense of a quadrilateral with one pair of parallel sides; and the word trapezoid was introduced to describe a quadrilateral which had no two sides parallel.

Trapezoid Bone, in anatomy, a bone of the wrist of which the superior surface articulates with the scaphoid bone, the external with the trapezium, the internal with the os magnum, and the inferior with the second metacarpal bone.

Traphagen, Frank Weiss, an American chemist; born in Eaton, O., July 20, 1861; was graduated at the School of Mines, Columbia University, in 1882. In 1893 he accepted the chair of chemistry at the Montana State College and became chemist of the Montana Agricultural Experiment Station.

Trappists, a religious order, celebrated for its extraordinary austerities, is so called from an abbey of the Cistercian order, founded in the middle of the 12th century, in the narrow valley of La Trappe, near Mortagne, in the Norman department of Orne — called "the trap" because of its inaccessibility.

Traveler's Joy, in botany, the genus Clematis; specifically, a North American species, climbing with pinnately-compound leaves and a large solitary campanulate, nodding flower of purple or violet color. It was introduced into Europe as a garden plant in 1730.

Traveler's Tree. This noble and unique plant is a native of Madagascar, and is now subspontaneous in Mauritius. The leaves surmounting

the palm-like trunk diverge on opposite sides from the summit, "somewhat in the same way as the ribs of a fan from its center," each consisting of a footstalk six to eight feet long, and an oblong, bright-green, shining, undivided blade of four to six feet. In the cup-like base of the leaf-stalks a considerable quantity of water is contained, which can be tapped by piercing from below; and this supply, being availed of by thirsty travelers, has originated the name of traveler's tree. The leaf blades are used for thatching, the seeds are edible, and the blue aril furnishes an essential oil.

THE TRAVELER'S TREE.

Traveling Sidewalks, movable platforms to carry passengers from one point to another. They were first practically tested at the World's Columbian Exposition in Chicago in 1893, and since then successfully installed in Berlin. A modification of this plan is the "escalator" traveling stairway, installed with great success in some of the elevated stations, and large department stores in New York, Chicago and other cities.

Travesty, a literary term used to denote a burlesque treatment of a subject which has been originally handled in a lofty or serious style. It differs from a parody in that in travesty the character and the subject matter remain substantially the same, while the language becomes grotesque, frivolous, and absurd, whereas in a parody the subject matter and characters are changed and the language and style of the original humorously imitated.

Travis, William Barrett, an American military officer; born in Conecuh co., Ala., in 1811. In 1832 he removed to Texas, took up arms against Mexico; and commanded the small garrison at the Alamo, when that place after a famous defense of 10 days was carried by 4,000 Mexicans, in March, 1836. Travis with five others, the only survivors at the capture of the fort, was put to death on March 6, by order of the Mexican commander, Santa Ana.

Trawling, a mode of fishing in which a net in the form of a large bag, with a strong framework keeping the mouth properly distended, is dragged along the bottom of the sea. It is the mode chiefly adopted in deep-sea fishing, and has largely developed in recent years, being much prosecuted by small steam vessels specially built for the purpose, but it is not ordinarily allowed within three miles of the shore. Cod, whiting, and other whitefish are taken by it in large numbers, and some kinds of flat fish, as soles, can scarcely be taken in any other way. Trawling can be practised only on a smooth bottom, as a rough bottom would destroy the net.

Treadmill, a wheel driven by the weight of persons treading on the steps of the periphery; originally an invention of the Chinese to raise water for the irrigation of fields. It is employed in English prisons, and forms part of the "hard labor" of persons convicted. The usual form is a wheel 16 feet long and five in diameter, several such wheels being coupled together when necessary for the accommodation of the prisoners. The circumference of each has 24 equi-distant steps. Each prisoner works in a separate compartment, and has the benefit of a hand rail. The wheel makes two revolutions per minute, which is

equivalent to a vertical ascent of 32 feet. The power may be utilized in grinding grain or turning machinery.

Treadwheel, a wheel turned by men or animals, either by climbing or pushing with the feet. In one form employed for raising water a rope is wound directly around the axle and has a bucket at each end; these are alternately raised and lowered by reversing the movement of the wheel. A form of treadwheel in which a donkey walks inside of a large wheel is used in pumping from the deep well of Carisbrook Castle, England; turn-spit dogs were formerly used in turning the spit upon which meat was roasted; and dogs are employed in some dairies to turn the barrel churns or agitate the vertical dashers of plunger churns. Like the modern treadmill the treadwheel was formerly used as a means of punishment and prison discipline.

Treason, High, that crime which is directly committed against the supreme authority of the State, considered to be the greatest crime that can be committed.

In the United States treason consists in levying war by a citizen against the country, or adhering to its enemies. In the session of Congress (1901–1902), several measures were introduced making any attack on the life of the President, Vice-President, or certain other government officials an act of treason, and punishable by death. The provision was also introduced that the offender should be tried by the Federal Courts, thus removing such cases from the jurisdiction of State courts. A law much modified from the original bills was passed.

Treasury, a place or building in which treasure is deposited; a storeplace for wealth; particularly, a place where the public revenues are deposited and kept, and where money is disbursed to defray the expenses of government; also, a place where the funds of an incorporated company or private society are deposited and disbursed. In particular, a department of government having control over the management, collection, and expenditure of the public revenue.

Treasury Department, one of the executive branches of the United States government; the fiscal branch of the government. It controls the collection, custody, and disbursement of the public revenue, and it embraces those valuable aids to trade and commerce — the Lighthouse, Life-saving, Coast and Geodetic Survey, Marine Hospital (Quarantine), Immigration, and Navigation services. It is presided over by a secretary, who directs the collection, safe-keeping, and disbursement of the revenue, submits to Congress the estimates of annual expenditures, and of the probable revenue; prepares plans for the improvement and management of the revenue, and for the support of public credit; prescribes the forms of keeping and rendering all public accounts; collects and registers statistics of commercial and manufacturing operations, and in general directs the business of the department, in all of which he has the aid and advice of three assistant secretaries and the assistance of a corps of bureau officers who attend to matters of administrative detail in their respective services. Payments are made on warrants issued by the secretary or an assistant secretary, countersigned by either the first or second comptroller, and registered by the register of the treasury. The office of the Treasurer of the United States is a bureau of the Treasury Department, and is specially charged with the custody of the public money. Other important branches of the Treasury Department are the Bureau of Engraving and Printing, Bureau of the Mint, Office of the Comptroller of the Currency, and the Secret Service Division engaged in the detection and prevention of counterfeiting.

Treaty, specifically, an agreement, contract, or league between two or more nations or sovereigns, formally signed by commissioners, duly accredited, and solemnly ratified by the several sovereigns or supreme authorities of each state. Treaties include all the various transactions into which States enter between themselves, such as treaties of peace, or of alliance, offensive or defensive, truces, conventions, etc. Treaties may be entered into for political or commercial purposes, in which latter form they are usually temporary. The power of entering into and ratifying treaties is vested in monarchies in the sovereign; in re-

publics it is vested in the chief magistrate, senate, or executive council; in the United States it is vested in the President, by and with the consent of the Senate. Treaties may be entered into and signed by the duly authorized diplomatic agents of different States, but such treaties are subject to the approval and ratification of the supreme authorities.

Trebbia, a river of North Italy, which rises in the Apennines, and flows into the Po near Piacenza after a course of 55 miles.

Trebizond, a seaport in Asiatic Turkey, capital of a pashalic of the same name, on the Black Sea. It has an extensive trade, exporting silk, wool, tobacco, oil, etc., from Asiatic Turkey; and silk fabrics, carpets, etc., from Persia. Pop. 35,000.

Treble, in music, of or pertaining to the highest vocal or instrumental part, sung by boys, or played by violins, oboes, clarinets, or other instruments of acute tone.

Tree, in botany, any woody plant rising from the ground, with a trunk, and perennial in duration; an arborescent plant as distinguished from a shrub, an under-shrub, and an herb. Trees occur in many orders, their stems varying in structure according to the sub-kingdoms to which they belong. The age of certain trees is often great, and, when cut down, the number of years they have existed can be ascertained by counting the annual zones. Some of the giant cedars of California are more than 100 feet in circumference, 400 feet high, and certainly 3,000 years old. The planting of trees is now more attended to than formerly, especially in cities and on the prairie lands of the United States.

Tree Fern, in botany, a fern rising to the elevation, and, to a certain extent, having the structure of a tree. The trunk is really a rhizome, consisting of a woody cylinder, of equal diameter at each end, growing only at the top, and composed internally of loose, cellular substance, which often disappears. Tree ferns flourish further from the equator in the Southern than in the Northern Hemisphere. They do so in New Zealand.

Tree Sorrel, in botany, an evergreen plant, about two feet high, with greenish flowers. It is cultivated in the United States.

Tree Soul, an animating and individuating principle supposed by races practising tree worship to reside in every tree.

Tree Worship, in comparative religion, a form of religion which has been general to most of the great races of mankind at a certain stage of mental development. It may have been a particular kind of nature worship, or have arisen from the animistic conception prevailing among the races of low culture at the present day, that trees were the residences or embodiments of spirits or deities. At the present day tree worship is prevalent among native races in Africa, Asia, and Australia. In Europe, though traces of it still linger in folk tales and popular customs, it no longer exists as a cult, except among the people of the Chersonese, who, though nominally Greek Christians, "still adhere to their beliefs in good and evil spirits, and worship them — the good spirits in forests and groves where coniferous are mixed with foliaceous trees, and the evil spirits in purely coniferous forests. Every god is represented by a special tree, the worship of which is provided for by a separate priest."

Trefoil, or **Treyfoil,** in architecture, an ornament used in Gothic architecture, formed by moldings in the heads of window lights, tracery, panelings, etc., so arranged as to resemble the trefoil or three-leaved clover. The trefoil was the badge of the Second Corps, in the Army of the Potomac, in the American Civil War.

Trees of Liberty. The custom common to various nations of celebrating certain festive occasions by setting up booths and huts of forest boughs, probably suggested the Tree of Liberty of the American Revolution, imitated in the French Revolution.

Tremain, Henry Edwin, an American military officer; born in New York city, Nov. 14, 1841; was graduated at the College of the City of New York in 1860, and at the Columbia Law School in 1867; served in the Union army in 1861–1866; was brevetted Brigadier-General of volunteers. He greatly distinguished himself at the battle of Resaca, Ga., May 15,

1864, and for his conduct in that action received a Congressional medal of honor. He was first assistant United States attorney of New York in 1873–1877; and colonel of the veterans of the 7th regiment New York National Guards in 1887–1891. D. 1910.

Tremulant, an organ and harmonium stop which causes the air as it proceeds to the pipes or reeds to pass through a valve having a movable top, to which a spring and weight are attached. The up-and-down movement of the top of the valve gives a vibratory movement to the air, which similarly affects the sound produced. On American organs, a fanwheel by rotating in front of the wind chest causes a tremolo.

Tremont, the early name by which Boston, Mass., was known. It arose from the three hills on which the city is built. It has also been called Trimount, or Trimountain.

Trench, Richard Chenevix, an English clergyman; born in Dublin, Ireland, Sept. 9, 1807; was graduated at Trinity College, Cambridge, in 1829. He entered the Church, and was finally consecrated archbishop of Dublin, Jan. 1, 1864. He was the author of a collection of poems, and a popular writer on philological and theological subjects.

Trenchard, Stephen Decatur, an American naval officer; born in Brooklyn, N. Y., July 10, 1818; was appointed to the navy in 1834; took part in the Seminole War in Florida; served on board the "Saratoga" in the war with Mexico; was in the "Powhatan" on her diplomatic cruise to China and Japan in 1857–1860; and commanded the "Rhode Island" in both attacks on Fort Fisher. He was promoted captain in 1866; commodore in 1871; served on the examining board in 1871–1872, and as lighthouse inspector and on headquarters duty in 1873–1875; became rear-admiral in 1875; commanded the North Atlantic squadron in 1876–1878, and was retired in 1880. He died in New York city, Nov. 15, 1883.

Trent, Council of, the 18th in order and the first in importance of the "Œcumenical" councils recognized by the Roman Catholic Church; was called forth by the Reformation in the 16th century, and demanded by both parties in the contest, for the reform of church discipline and the settlement of the points of controversy. After being repeatedly postponed, it was convened at Trent as an exclusively Roman council by Pope Paul III., Dec. 13, 1545. In March, 1547, it was transferred to Bologna, but was reopened at Trent, by Pope Julius III., May 1, 1551. It was broken up, Jan. 18, 1562, in consequence of the victorious advance of the Elector Moritz, but was recalled by Pope Pius IV., Jan. 18, 1562, and reached its close, at its 25th session, Dec. 4, 1563. Its decrees and canons, which were confirmed by a bull of Pius IV., Jan. 26, 1564, are drawn up with much clearness and precision, though the doctrines of the Protestants are often exaggerated or falsified. They were immediately acknowledged in Spain, Portugal, Italy, Poland, and Catholic Germany, and, in their doctrinal part, in France. The principal articles of faith decreed, with anathemas, were the canon of Scripture, with the Church as the sole interpreter, progressive justification, the seven sacraments, transubstantiation, purgatory, the invocation, veneration, celibacy of the clergy, and auricular confession.

Trent, William Peterfield, an American author; born in Richmond, Va., Nov. 10, 1862; was graduated at the University of Virginia in 1884; and in 1888 became Professor of English and of History in the University of the South. In July, 1900, he was appointed Professor of English Literature at Columbia University, New York city.

Trent Affair. In October, 1861, Capt. Charles Wilkes, U. S. N., intercepted at sea the British mail steamer "Trent," bound from Havana to St. Thomas, and took off two Confederate commissioners, accredited to France, Messrs. Mason and Slidell, who were among her passengers. They were taken to Boston, and imprisoned at Fort Warren, but were released on Jan. 1, 1862, on the demand of the British government, and permitted to proceed to Europe. The affair created intense excitement at the time, but Secretary Seward accepted England's demand as an adoption of the American doctrine which denied the right

of search, and on that ground replied that the prisoners would be cheerfully given up.

Trenton, city and capital of Mercer county and of the State of New Jersey; on the Delaware river, the Delaware & Raritan canal, and the Pennsylvania and other railroads; 57 miles S. W. of New York city; is noted for the extent and variety of its manufactures, which have an annual output value of over $45,000,000, and include pottery and wire goods of all kinds, rubber and woolen goods, fire-brick and terra-cotta, and iron and steel; and, besides the State Capitol, contains the State Prison, State Insane Asylum, State School for Deaf Mutes, State Normal School, State Arsenal, Federal Building, seats of Protestant Episcopal and Roman Catholic bishops, and a Revolutionary Memorial Monument. The city was settled in 1679, and on Dec. 25, 1776, Washington attacked the British here after making his famous crossing of the Delaware. Pop. (1910) 96,815.

Trescot, William Henry, an American diplomatist; born in Charleston, S. C., Nov. 10, 1822; assistant Secretary of State from June, 1860, till South Carolina seceded; settled in Washington in 1875, and resumed the practice of law; was counsel for the United States before the Fishery Commission at Halifax in June, 1877; was a commissioner with General Grant to arrange a commercial treaty with Mexico in 1882; and served in other important diplomatic capacities. He died May 4, 1898.

Trespass, in law, a physical interference with the person or property of another. However innocent the act, if it be voluntary, a legal wrong is done. Thus, if pursued by a wild beast you deliberately take refuge in another man's house, you commit a trespass; but if you rush there in mere blind fear, you do not. Again, if you drive in so careless a manner as to hurt any one, though unintentionally, this is a trespass. If animals or, indeed, any chattels are on a man's land doing damage, they may be seized and impounded till compensation be made.

There are various kinds of trespass: (1) trespass to goods, which consists in damaging them physically, as asportation — i. e., carrying them away; (2) trespass to the person, which is either battery, assault, or false imprisonment.

Trevithick, Richard, an English inventor; born in Illogan, Cornwall, April 13, 1771. In 1797 he succeeded his father as a leading engineer in Cornish mining. Among his first inventions was an improved pump, which soon came into universal use in deep mining. He next perfected a high pressure steam engine, and began to experiment in the construction of locomotive engines. Passsengers were first conveyed by steam by means of his road locomotive in 1801, and he soon after successfully worked a tramroad locomotive. His ideas were afterward taken up and developed by Stephenson. He was the first to recognize the value of iron in ship building, and the application of steam to agriculture. His request for recognition and reward for his numerous inventions was disregarded by government. He died in Dartford, Kent, April 22, 1833.

Triangle, in geometry a portion of a surface bounded by three lines, and consequently having three angles. Triangles are either plane, spherical, or curvilinear. A plane triangle is a portion of a plane bounded by three straight lines called sides, and their points of intersection are the vertices of the triangle. Plane triangles may be classified either with reference to their sides or their angles. When classified with reference to their sides, there are two classes: (1) Scalene triangles, which have no two sides equal. (2) Isosceles triangles, which have two sides equal. The isosceles triangle has a particular case, called the equilateral triangle, all of whose sides are equal. When classified with reference to their angles, there are two classes: (1) Right-angled triangles, which have one right angle. (2) Oblique-angled triangles, all of whose angles are oblique; subdivided into (a) acute-angled triangles, which have all their angles acute; and (b) obtuse-angled triangles which have one obtuse angle. The sides and angles of a triangle are called its elements; the side on which it is supposed to stand is called the base, and the vertex of the opposite angle is called the vertex of

the triangle; the distance from the vertex to the base is the altitude. Any side of a triangle may be regarded as a base, though in the right-angled triangle one of the sides about the right angle is usually taken. The three angles of a plane triangle are together equal to two right angles, or 180°; its area is equal to half that of a rectangle or parallelogram having the same base and altitude; in a right-angled plane triangle the square of the side opposite the right angle is equal to the sum of the squares of the other two sides.

In music, a bar of steel, bent into the form of a triangle, having an opening at one of the lower angles, so that the sides are of unequal length. It is suspended by one angle and struck with a small rod, and sometimes introduced in brilliant musical passages.

Tribe, an aggregate of stocks — a stock being an aggregate of persons considered to be kindred — or an aggregate of families, forming a community usually under the government of a chief. The chief may be a despot, as in Africa, or he may, as among the American Indians, be simply a leading warrior among fellow-warriors who are virtually his equals.

Tribune, in Roman antiquities, properly the chief magistrate of a tribe. There were several kinds of officers in the Roman state that bore the title. (1) The plebeian tribunes, who were first created after the secession of the commonalty to the Mons Sacer (A. U C. 260), as one of the conditions of its return to the city. They were especially the magistrates and protectors of the commonalty, and no patrician could be elected to the office. At their first appointment the power of the tribunes was very small, being confined to the assembling of the plebeians and the protection of any individual from patrician aggression; but their persons were sacred and inviolable, and this privilege consolidated their other powers, which, in the later ages of the republic grew to an enormous height, and were finally incorporated with the functions of the other chief magistracies in the person of the emperor. The number of the tribunes varied from 2 to 10, and each of these might annul the proceedings of the rest by putting in his veto. (2) Military tribunes were first elected in the year A. U. C. 310, in the place of the consuls, in consequence of the demands of the commonalty to be admitted to a share of the supreme power. This measure was not, however, a complete concession of their demands, but, in fact, evaded them in a great degree; for the tribunate was not invested with the full powers or honors of the consulate, not being a curule magistracy, and, though it was open to all the people, patricians were almost invariably chosen. The number of the military tribunes was sometimes six and sometimes three. For above 70 years sometimes consuls were elected and sometimes military tribunes; at last the old order was permanently restored, but the plebeians were admitted to a share of it. (3) Legionary tribunes, or tribunes of the soldiers, were the chief officers of a legion, six in number, who commanded under the consul, each in his turn, usually about a month; in battle each led a cohort. Also, a bench or elevated place; a raised seat or stand. Specifically, a throne of a bishop, and a sort of pulpit or rostrum, where a speaker stands to address an audience.

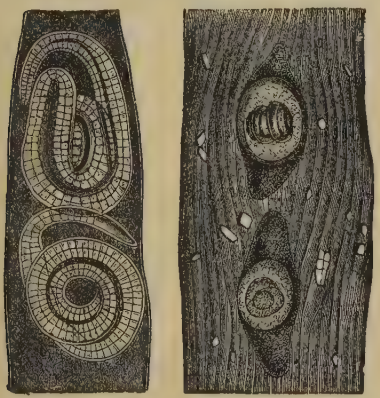
Triceps, in anatomy, a muscle, one extremity of which is composed of three distinct fasciæ.

Trichiasis, a most troublesome disease, a growing inward of the eyelashes, perhaps one, or three or four, which present their points toward the globe of the eye, while the others retain their natural position. Competent surgical aid should be obtained.

Trichina. The trichinæ met with in human muscle are minute immature worms, spirally coiled in small oval cysts, scarcely visible to the naked eye, measuring 1-78 inch in length and 1-13 inch in breadth. Sometimes the worms are not encysted, and measure 1-25 inch in length and 1-360 inch in breadth. The mature and reproductive trichinæ inhabit the intestinal canal of mammals, including man, and live for four or five weeks, attaining ability to reproduce on the second day of their introduction. The male is about 1-18 and the female 1-8 inch long. The eggs are hatched within the female, and as soon as the embryos are expelled they bore their way into the muscles, often

setting up trichiniasis. Thus the only way in which trichinæ can get into the human system is by being swallowed alive with pieces of imperfectly cooked muscle in which they are encysted. The pig is the great source of infection to man, as it is peculiarly liable to the presence of encysted trichinæ. Adult trichinæ do, or may, infest the intestinal canal of all animals in the muscles of which the larval forms have been found. These are, besides man, the pig, dog, cat, rabbit, rat, mouse, hedgehog, mole, and badger.

Trichina Spiralis, the name given to a peculiar nematoid worm which inhabits the muscles, usually of the pig. The viviparous females, originally living in rats, begin about eight days after entering the intestines of their second host, a pig, to give birth



TRICHINA SPIRALIS: MAGNIFIED.

to the larvæ, which pass into various parts of the body, especially the muscles, where they coil up in a sack, or cyst, which eventually becomes calcareous and whitish. When pork thus infected is eaten the worms are set free in the stomach of their third host (man), and in three or four days there become sexually mature, each female being capable of producing 1,000 young.

Trichiniasis, a disease produced by the presence of trichinæ within the human system, and within the bodies of other animals liable to infestation.

Trickett, William, an American lawyer; born in England, in 1840; was graduated at Dickinson College in 1868 and was admitted to the bar in 1876. He was made dean of Dickinson School of Law in 1890; was candidate for the Superior Court of Pennsylvania on the Democratic ticket in 1898. He was the author of various works on law.

Triclinium. In Roman antiquities, in early times, the whole family sat together in the atrium, or public room; but when mansions were built upon a large scale, one or more spacious banqueting halls commonly formed part of the plan, such apartments being classed under the general title of triclinia. The word triclinium, however, in its strict signification, denotes not the apartment, but a set of low divans or couches grouped round a table; these couches, according to the usual arrangement, being three in number, and arranged round three sides of the table, the fourth side being left open for the ingress and egress of the attendants, to set down and remove the dishes. Each couch was calculated to hold three persons, though four might be squeezed in. Men always reclined at table, resting on the left elbow, their bodies slightly elevated by cushions, and their limbs stretched out at full length.

Tricolor, a flag or banner having three colors; specifically, a flag having three colors arranged in equal stripes or masses. During the revolution of 1789 in France, the revolutionists adopted as their colors the three colors of the city of Paris for their symbol. The three colors were first devised by Mary Stuart, wife of Francis II. The white represented the royal house of France; the blue, Scotland; and the red, Switzerland, in compliment to the Swiss guards, whose livery it was.

Tricycle, a three-wheeled machine for traveling on the road. It is an improvement on the old velocipede, and was introduced in its present form about 1878.

Trident, a three-pronged fork used by fishermen; is employed as the attribute of Poseidon (Neptune); and is frequent on coins of such Greek States as have Poseidon for patron deity. The conventional figure of Bri-

tannia bears a trident as the symbol of sovereignty over the sea.

Tridentine Creed, in Church history, the profession of the Tridentine faith, published by Pope Pius IV., in 1564. It originally consisted of the Nicene creed, with a summary of the Tridentine definitions, to which is now added a profession of belief in the decrees of the Vatican Council.

Trieste, the most important seaport of Austria-Hungary, and most considerable trading town on the Adriatic; at the head of the Gulf of Trieste, an arm of the Gulf of Venice; 370 miles S. S. W. of Vienna. In 1849 it was constituted an imperial free city, and attached and belonging to it is a territory 36 square miles in extent. Trieste, which from 1719 till July 1, 1891, was a free port, has a very fine new harbor (1868–1883). The manufactures are very extensive, including shipbuilding, rope making, and the manufacture of soap, rosoglio, white lead, leather, etc. A great agricultural exhibition was held at Trieste in 1882. Pop. 158,344, nearly all Romanists, and mostly Italian-speaking.

Triforium, in Gothic churches, a gallery between the arches of the nave and the roof of the aisles below the clere-story lighted by windows opening into the interior of the building.

Trigger-fishes (Balistes,) a genus of teleostean fishes, so named from the peculiar structure of the dorsal fin, the first ray or spine of which can only be depressed by the movement of the second ray.

Trigona, in entomology, a genus of social bees, forming their nests within hollow trees or the cavities of rocks in America, Sumatra, Java, etc.

Trigonia, in botany, tropical American trees with opposite, stipulate leaves, their inflorescence in panicles, irregular flowers, and long, hairy seeds.

Trigonometrical Survey, a survey of a country carried out from a single base by the computation of observed angular distances; but the term is usually confined to measurements on a large scale embracing a considerable extent of country and requiring a combination of astronomical and geodetical operations. A trigonometrical survey may be undertaken either to ascertain the exact situation of the different points of a country relatively to each other and to the equator and meridians of the terrestrial globe, for the purpose of constructing an accurate map, or to determine the dimensions and form of the earth by ascertaining the curvature of a given portion of its surface, or by measuring an arc of the meridian. The most minute accuracy and the most perfect instruments are required in all the practical parts of such operations, and regard must be had to the curvature of the earth's surface, the effects of temperature, refraction, altitude above the level of the sea, and a multitude of other circumstances which are not taken into account in ordinary surveying. In a trigonometrical survey the whole area to be surveyed is divided into a system of triangles, commencing from a carefully measured base, which forms the side of the first triangle. These are further intersected by a network of smaller triangulations, which will fix all the secondary points on the surface, and finally the details of the ground are completed by measurement and the theodolite.

Trigonometry, originally the branch of geometry which had to do with the measurement of plain triangles. This gradually resolved itself into the investigation of the relations between the angles of the triangle, for the simple reason that all triangles having the same set of angles are similar, so that if, in addition, one side is given the other two at once follow. It is easy to show from the Sixth Book of Euclid that, if we fix the values of the angles of a triangle, the ratio of the sides containing any one of these angles is the same whatever be the size of the triangle. This ratio is a definite function of the angles; and it is with the properties of such ratios that trigonometry has now to deal.

Trilobite, an extinct and widely-distributed family of palæozoic crustacea, nearly allied to the Phyllopoda. Trilobites are especially characteristic of the Silurian strata; about a dozen genera appear in the Devonian, three or four in the Carboniferous, and none higher. They comprehend those species in which the body is divided

into three lobes, which run parallel to its axis. They fed on small water animals, and inhabited gregariously and in vast numbers the shallow water near coasts. When attacked they could roll themselves into a ball. No antennæ or limbs have yet been detected; "still," says Owen, "there can be no doubt they enjoyed such locomotive powers as even the limpet and chiton exhibit." The lenses of the eye are frequently beautifully preserved so as to be perceptible by the naked eye. The species vary greatly in size, some being no larger than a pin's head, while one is found 18 inches long. Probably some so-called species are only larval or transition forms of others.

Trilogy, a series of three dramas, which, though complete each in itself, bear a certain relation to each other, and form one historical and poetical picture. The term belongs more particularly to the Greek drama. In Athens it was customary to exhibit on the same occasion three serious dramas, or a trilogy, at first connected by a sequence of subject, but afterward unconnected, and on distinct subjects, a fourth or satyric drama being also added, the characters of which were satyrs. Shakespeare's "Henry VI." may be called a trilogy.

Trimble, Isaac Ridgeway, an American military officer; born in Culpeper co., Va., May 15, 1802; was graduated at the United States Military Academy in 1822. When the Civil War began he was in the West Indies, but hastened to Baltimore, where he was given command of the non-uniformed volunteers organized for the purpose of defending that city against Union troops. In May, 1861, he became colonel of engineers in the Confederate army. He was promoted Major-General in April, 1863, and during the battle of Chancellorsville had command of a division of the 2d corps of Jackson's army. On the third day of the engagement at Gettysburg he took part in the famous charge of Gen. George E. Pickett. He there lost a leg and was taken prisoner. He was not exchanged till April, 1865, after being detained a prisoner at Johnson's Island for 21 months. He hastened to join Lee, but when he arrived in Lynchburg he discovered that the Confederate army had surrendered the day before. He died in Baltimore, Md., June 2, 1888.

Trimurti, in comparative religion, the later Hindu triad — Brahma, Vishnu, and Siva — considered as an inseparable unity. The Padma Purana, which, as a Purana of the Vaishnavas, assigns to Vishnu the highest rank, thus defines the Trimurti; "In the beginning of creation the great Vishnu, desirous of creating the world, produced from the right side of his body himself as Brahma; then, in order to preserve the world, he produced from the left side of his body Vishnu; and in order to destroy the world he produced from the middle of his body the eternal Siva. Some worship Brahma, others Vishnu, one, yet threefold, creates, preserves, and destroys; therefore let the pious make no difference between the three."

Trine, Ralph Waldo, an American author; born in Mt. Morris, Ill., Sept. 9, 1866; was graduated at Knox College, Galesburg, Ill., in 1891, and then pursued studies in history and social and political science at Johns Hopkins University. He became deeply interested in social problems; was made director of the American Humane Society and the Massachusetts Society for the Prevention of Cruelty to Animals. His publications include: "The Life Books" (3 vols.); "Character-Building Thought Power"; etc.

Trinidad, one of the British West India Islands; in the extreme S. of the group, being only 7 miles from the coast of Venezuela, the Gulf of Paria (an extremely safe anchorage) lying between. It is about 50 miles long, varying in breadth from 30 to 35 miles; area, 1,755 square miles. A remarkable phenomenon is a pitch lake near the village of La Brea, composed of bituminous matter floating on the surface of fresh water, about 3 miles in circumference, and 138 feet above the sea. The soil is very rich and productive. The climate is hot and moist, but not unhealthy. The chief town, Port of Spain, is one of the finest towns in the West Indies (pop. 33,782). The most important products are cocoa, sugar, rum, molasses, coffee, cocoanuts, tobacco, bitters, asphalt, and fruit. A third of the trade is with Great Britain, and

a fourth with the United States. Pop. 208,028, mainly French (speaking a patois), with Spanish and English colonies, and many East Indian coolies.

Trinidad was discovered by Columbus in 1498, but no permanent establishment was founded there till 1532 by the Spaniards. It suffered at the hands of the English (Sir Walter Raleigh in 1595), the Dutch (1640), and the French (1677 and 1690). In 1797 it first fell into the hands of the British, who were confirmed in the possession of it in 1802.

Trinity, a term used to express the doctrine of Three Persons in one Godhead, which is held alike by the Roman, Greek, and Anglican Churches, and by the greater number of Nonconformist communions. It is indicated in the Apostles' Creed, stated more explicitly in the Nicene Creed, and set out at length in the Athanasian Creed. The First Article of the Church of England states the doctrine in terms that would be accepted by sister churches, and by orthodox dissenters generally: "There is but One Living and True God. . . . And in Unity of this Godhead there be Three Persons, of one substance, power, and eternity; the Father, the Word, and the Holy Ghost." The Council of Nice (A. D. 325) by affirming the divinity of Christ, and that of Constantinople (A. D. 381) by affirming the divinity of the Holy Ghost, while insisting on the Unity of God, declared the doctrine of the Trinity in Unity to be the doctrine of the Church. From that time it was never called in question except by a few obscure sects, till the Reformation, when Unitarianism became one phase of Protestantism.

Trinity Bay, a large bay on the N. E. coast of Newfoundland. The peninsula of Avalon is nearly surrounded by it. Its chief ports are Trinity and Heart's Content.

Trinity College, an American educational institution, established in Hartford, Conn., in 1823. It bore the name of Washington College till 1845. The original site of the campus was that now occupied by the State Capitol. In 1878 the ground was sold to the city of Hartford, and 78 acres were secured about a mile S. of its former location.

Trinity College, a coeducational institution in Durham, N. C.; founded in 1853 under the auspices of the Methodist Episcopal Church.

Trinity College, a famous institution in Cambridge, England; founded by Henry VIII., in 1546.

Trinity College, a noteworthy college in Oxford, England; founded by Richard de Hoton, Prior of Durham, in 1290.

Trinity College, or **The University of Dublin,** the largest and most important educational institution in Ireland. It is believed to have been founded by Queen Elizabeth in 1591, though some authorities assert that she merely endowed and Protestantized the school.

Trinity House, a name borne by five maritime societies of Great Britain; situated in London, Hull, Newcastle-on-Tyne, Leith, and Dundee. Probably all, or most of them, were originally partly religious and partly secular establishments founded by seamen, their chief original objects being probably mutual assistance and the care of aged and infirm seamen. From the 4th century onward various public duties and privileges were assigned to them by royal charters or acts of Parliament, such as providing lighthouses, buoying channels, and licensing pilots; and powers were given to them to levy dues on shipping or cargoes. With one important exception, these duties and powers have been reduced or withdrawn. Dundee House is now only a benefit society. Leith retains its public duties as a pilotage authority, as also do Newcastle and Hull, while the last also looks after the lighthouses and buoys of the Humber. All of them continue to give pensions, or homes and pensions, to members, and some assistance to destitute seafarers.

On the other hand, the London Trinity House, called the Corporation of Trinity House of Deptford Strand, is entrusted with the management of the general lighthouse and buoyage system of England and Wales, and with a supervising authority over local lights and buoys, and has besides a partial control over the lighting and

buoyage systems of Scotland and Ireland.

Trinity Sunday, the Sunday after Whitsunday. It was definitely established as a Church festival by Pope John XXII. in 1334. All the principal feasts occur in the half-year between Advent Sunday and Trinity, and all the Sundays from Trinity to Advent, are called Sundays after Trinity.

Trio, a musical composition for three voices or for three instruments.

Triple Alliance, an alliance between the States-General and England, against France, for the protection of the Spanish Netherlands; was ratified Jan. 23, 1668. Sweden joined the league, April 25, and it then became known as the Triple Alliance. Another called the Second Triple Alliance, between England, France, and Holland, to oppose the designs of Cardinal Alberoni, the Spanish minister; signed by the English and French, Nov. 28, 1716, and by the Dutch at The Hague, Jan. 4, 1717. A Triple Alliance between Great Britain, Russia, and Austria, was concluded against France at St. Petersburg, Sept. 28, 1795. A fourth one was formed about 1883 between Germany, Austria-Hungary, and Italy against Russia and France.

Triplet, in music, a combination of three notes to be played in the time of two. They are joined by a slur and distinguished by having the figure 3 above them.

Tripod, in classical antiquity, a bronze altar, having three legs or feet, and frequently also three rings at the top to serve as handles. A tripod was one of the attributes of Apollo, and originated in the custom of seating the pythoness, or prophesying priestess, in a triple-footed seat, over the vapor which ascended from a mystic cavern at Delphi, and which was believed to have the power of producing sacred inspiration, and the ability of foretelling future events. Highly ornamented tripods of similar form, made of precious metals, were given as prizes at the Pythian and Nemean games and elsewhere, and were frequently placed by grateful worshipers as votive offerings in the temples of different gods.

Tripoli, a province of the Ottoman empire; the extreme E. of the Barbary States of North Africa, stretching along the whole extent of both the greater and lesser Syrtes; bounded on the W. by Tunis, on the S. (very vaguely) by the Libyan Desert and Fezzan, on the E.—if we include the plateau of Barca — by Egypt, and on the N. by the Mediterranean Sea; area roughly estimated at 399,000 square miles. Tripoli is less mountainous than the rest of Barbary. There are no rivers, and rain seldom falls during the long hot summers, but the heavy dew supports vegetation in favored spots. The climate is extremely uncertain. The coast region (about 1,100 miles in length) is very fertile about Tripoli and Mesurata, where all sorts of tropical fruits, grain, wine, cotton, madder, etc., are produced; but further E. along the shores of the Gulf of Sidra, reigns sandy desolation. The interior yields senna, dates, and galls, and the carob and lotus are indigenous. Sheep and cattle are reared in great numbers, and there is a hardy breed of small but excellent horses, besides strong and beautiful mules. The commerce of the country consists in exporting, principally to Malta and the Levant, the products of the country and of the interior of Africa (gold dust, ivory, natron, and ostrich feathers), which are brought hither in caravans across the desert. The imports (which consist chiefly of European manufactures) have been declining gradually of late years, owing partly to the new direction which the trade of Central Africa is assuming, and partly to the abolition of the slave trade, which has stopped the demand for many of the commodities that supported the traffic. Nevertheless Tripoli is still an important mart of the caravan trade with the interior.

Tripoli is subdivided into four livas or provinces — Tripoli, Benghazi (Berenice), Mesurata, and Gadames. The governor-general has the title, rank, and authority of a pasha of the Ottoman empire. He is appointed by the Sultan, and in his turn appoints the beys or subordinate governors of the provinces; but many of the chief officers of the state are nominated from Constantinople. The military

force of the country consists of a body of Turkish soldiers, formerly about 3,000, but increased in 1885 to 17,000 in number, whose business is to keep down insurrections, but who were formerly chiefly expert in creating them. The natives pay to the Turkish government, by way of tribute, a 10th of all the products of the soil.

Tripolitan War, a war between the United States and Tripoli in 1801–1805. It was caused by the refusal of the United States to increase its payment for immunity from the depredations of the Tripolitan corsairs. The conflict was attended by thrilling exploits on the part of the Americans, who brought Tripoli to terms in 1805, and again in 1815 compelled the Tripolitan ruler to pay heavily for violation of neutrality.

Tripp, Bartlett, an American diplomatist; born in Maine, about 1842; was graduated at Colby University in 1861, and at the Albany Law School in 1866; removed to Yankton, S. D., in 1869, and there engaged in law practice. He was president of the First Constitutional Convention in 1883; chief justice of the Supreme Court of Dakota Territory in 1885–1889; minister to Austria in 1893–1897; and chairman of the commission of 1899 which arranged a settlement of the questions between the United States, England, and Germany, concerning Samoa.

Tripp, Seth D., an American inventor; born in Rochester, Mass., in 1826. He invented a machine for pegging shoes in 1846, and also sole molders, rolling machines, heel polishers, shank cutters, beating-out and welt-cutting machines, and sole dyers. He died in Lynn, Mass., Jan. 7, 1898.

Trippant, in heraldry, a term applied to beasts of chase, as passant is to beasts of prey, etc. The animal is represented with the right foot lifted up, and the other three on the ground. Counter trippant is when two animals are borne trippant contrary-ways, as if passing each other out of the field.

Trireme, in classical antiquity, a galley or vessel having three ranks or benches of oars on each side, a common class of war ship among the ancient Romans, Greeks, Carthaginians, etc. They were also provided with large square sails, which could be raised during a fair wind, to relieve the rowers. When two ships engaged, if tolerably well matched, the great object aimed at by each was, either by running up suddenly alongside of the enemy, to sweep away or disable a large number of his oars, or, by bearing down at speed, to drive the beak full into his side or quarter, in which case the planks were generally stove in, and the vessel went down. But if one of the parties was so decidedly inferior in seamanship as to be unable to cope with his antagonist in such maneuvers, he endeavored, as he approached, to grapple with him, and then the result was decided, as on land, by the numbers and bravery of the combatants.

Tritheism, the doctrine which teaches that there are three Gods, instead of three Persons in the Godhead. According to Cyril of Jerusalem this teaching was introduced by the gnostics of the 2d century.

Triticum, a genus of grasses, including the various species of wheat. Found in America and Europe. The known and classified species number 20, from the temperate regions. Some species are annual, others perennial.

Triton, in classical mythology, a powerful sea deity, son of Poseidon (Neptune) by Amphitrite, or, according to some, by Sileno or Salacia. He dwelt with his father in a golden palace on the bottom of the sea. He could calm the ocean, and abate storms. He was generally represented as blowing a shell, and with a body above the waist like that of a man, and below like a dolphin. Many of the sea deities were called Tritons by the poets.

Triton, in zoölogy: **(1)** A genus of aquatic salamanders, with 16 species, widely distributed in temperate and sub-tropical regions. In North America, Diemictylus viridescens is one of the most common species. **(2)** A genus of marine gastropods, with 100 recent species, from the West Indies, Mediterranean, Africa, India, China, the Pacific, and Western Australia, ranging from low water to 10 or 20 fathoms, and one minute species has been dredged at 50 fathoms. The

Great Triton is the conch blown as a trumpet by the Australian and Polynesian natives.

Triumph, in Roman antiquities, a grand procession, in which a victorious general entered the city by the Porta Triumphalis, in a chariot drawn by four horses, wearing an embroidered robe, an under garment flowered with palm leaves, and a wreath of laurel round his brows. He was preceded by the prisoners taken in the war, the spoils of the cities captured, and pictures of the regions subdued. He was followed by his troops; and, after passing along the Via Sacra and through the Forum, ascended to the Capitol, where he offered a bull in sacrifice to Jove.

Under the empire, the prince being sole Commander-in-Chief of the armies of the State, all other military commanders were regarded merely as his legati, and it was held that all victories were gained under his auspicia, however distant he might be from the scene of action; consequently he alone was entitled to the triumph.

A naval triumph differed from a military one only in being on a smaller scale, and in being characterized by the exhibition of nautical trophies, such as beaks of ships. An ovation was an honor inferior to a triumph, the chief difference being that in the former the victorious general entered the city on foot, and in later times on horseback. The Senate claimed the exclusive prerogative of granting or refusing a triumph.

Triumvir, in Roman government, one of the three men united in office. The triumvirs were either ordinary magistrates or they were extraordinary commissioners appointed to jointly execute any office.

Triumvirate, a coalition of three men in office or authority; specifically applied to two great coalitions of the three most powerful individuals in the Roman empire for the time being. The first of these was effected in the year 60 B. C., between Julius Cæsar, Pompey, and Crassus, who pledged themselves to support each other with all their influence. This coalition was broken by the fall of Crassus at Carrnæ in Mesopotamia; soon after which the civil war broke out, which ended in the death of Pompey, and establishment of Julius Cæsar as perpetual dictator. After his murder, 44 B. C., the civil war again broke out; and after the battle of Mutina, 43 B. C., Antony, Octavius, and Lepidus coalesced, thus forming the second triumvirate. They divided the provinces of the empire; Octavius taking the West, Lepidus Italy, and Antony the East.

Trivium, the name given in the Middle Ages to the first three of the seven liberal arts — grammar, rhetoric, and logic. The other four, consisting of arithmetic, music, geometry, and astronomy, were called the quadrivium.

Trocha, a Spanish word denoting a military highroad. The trocha played an important part as a barrier in the Cuban insurrection of 1895–1898. It consisted of a cleared space 150 to 200 yards wide, stretching through an apparently impassable jungle for 50 miles, bordered by fallen trees and a maze of barbed wire. Through the center of the clearing ran a single track military railroad, and on one side of that a line of forts.

Trochee, in prosody, a foot of two syllables, the first long and the second short.

Trochidæ, a family of gasteropodous mollusks. In the genus Trochus the shells are top-shaped, and hence are popularly known as topshells. Many of the shells are extremely beautiful, and are used for adorning headdresses, necklaces, etc., the outer layers being removed.

Trochilidæ, the humming birds, a family of insessorial birds, containing above 300 species, divided into about 75 genera or sub-genera. The Trochilidæ include some of the smallest known birds, many of which are remarkable for the wonderful splendor of their plumage. They are active little birds, and from the structure of their frames, it is apparent that they were intended to pass most of their time on the wing. Their food consists of small insects, and perhaps the nectareous juices of flowers, which their tongue is beautifully fashioned for obtaining. Their wings are very long and narrow, and they are, by means of the rapid motion given to them, able to balance

themselves in the air, hovering round flowering shrubs and plants, probing their tubular nectaries, and at the same time emitting a pretty loud humming noise, caused by the concussion of their wings with the air; whence their English name "humming birds." They are natives of America, and are found from one extent of the continent to the other, though in greatest numbers in the tropical parts, in the deltas, and along the banks of the great rivers both of the North and South.

Trochilium, in entomology, the clearwing; a lepidopterous insect with partially transparent wings. The currant and peach-tree borers are common examples. The caterpillar feeds within the stems of currant bushes, the birch, the oak, the apple, various willows, etc.

Trochu, Louis Jules, a French military officer; born in Le Palais, France, March 12, 1815; was educated at St. Cyr; engaged in the Algerian, Crimean and Italian campaigns. At the outbreak of the Franco-Prussian War (1870) he was made Governor of Paris, and when the republic was proclaimed he was intrusted with the defense of the city, a position which he held till the capitulation. He was elected to the National Assembly in 1871 and retired to private life in 1873. Died Oct. 7, 1896.

Trogon, beautiful tropical birds, with 24 species, ranging from Paraguay to Mexico, and W. of the Andes in Ecuador.

Trojan War, The, a legendary war which forms the theme of the "Iliad" of Homer. The story briefly told is that Paris (Alexander), son of Priam, King of Troy, carried off Helen, wife of Menelaus, King of Sparta; that the Achæan princes, under the command of Menelaus' brother, Agamemnon, King of Mycenæ, undertook to recover Helen; that the Achæans, having besieged Troy for nine years, eventually sacked the city and recovered Helen. These events were regarded as historical not only by the Greeks themselves, but by the moderns as late as the first half of the 19th century, and a date (1184 B. C.) was assigned with much precision and confidence to the fall of Troy. But the remarkable revolution in the views of scholars about mythology, begun by Lobeck in 1829, and by the brothers Grimm, led to the belief that the war was legendary. Many of the incidents were shown to be myths common to most Indo-European nations. The account which Homer left to us of the struggle to avenge the wrongs and woes of Helen is essentially a story in which the main chain of causation is superhuman, in which the gods mingle visibly with men, and the heroes themselves are the sons or husbands of immortal beings. The legend of Troy was a favorite subject with the poets of the Middle Ages and took varied forms differing from the Greek version of the event and dwelling on the heroes descended from the Trojans.

Trolley, a word meaning a pulley running on an overhead wire. In electric railways this pulley is at the top of a long rod that acts as a conductor to transmit the electric current to the motor of a street car. By extension, the word trolley is applied to the car and to the system as a whole.

Trolley Fire Engine, a fire engine differing from those in ordinary use, merely by its being adapted to be carried on trucks fitted with motors that can run on a trolley line.

Trollope, Anthony, an English novelist; born in London, England, April 12, 1815. He was educated at Harrow and Winchester; in 1834 became a clerk in the postoffice, and in 1841 was appointed clerk to a postoffice surveyor in Ireland. His Irish experiences gave him material for his first novels. His first success was "The Warden"; followed by "Barchester Towers"; etc. He also published accounts of his travels. He died in London, Dec. 6, 1882.

Trollope, Frances M., an English author; mother of Anthony; born near Bristol, England, in 1780. In 1829 she visited the United States, and afterward published a volume entitled "Domestic Manners of the Americans." She followed this with the novel "The Refuge in America." She died in Florence, Italy, Oct. 6, 1863.

Trollope, Thomas Adolphus, elder brother of Anthony; born April 29, 1810. He was a constant contributor to English periodicals, and was

Italian correspondent of the New York "Tribune." Among his many books are: "A Summer in Brittany"; "What I Remember"; etc. He died in Clifton, England, Nov. 11, 1892.

Trombone, a large, deep, and loud-toned instrument of the trumpet kind, the name being an augmentative of tromba, a trumpet. It consists of two tubes, so constructed that one may slide in and out of the other, and thus form one tube that can be lengthened at will and made of varying pitch. There are three kinds of trombones, called after their compass the alto, tenor, and bass trombones. Soprano trombones have also been made, but they are rarely used. Some of these instruments are fitted with pistons, whence they are called valve trombones. Also a powerful reed stop in the organ, of 8 feet or 16 feet scale on the manuals and 16 feet or 32 feet on the pedals. In ordnance, a form of blunderbuss for boat service.

TENOR TROMBONE.

Tromometer, an instrument for measuring earth tremors.

Tromp, the water-blowing engine; used as a furnace blast in some parts of America, Carniola, and Savoy.

Tromp, Marten Harpentzoon Van, a Dutch naval officer; born in Briel, Holland, in 1597. He began to serve under his father in the navy at 10 years of age, gradually rose to distinction, and in 1637 attained the rank of lieutenant-admiral; in which capacity he served against the Spaniards, and captured many of their ships. After commanding in several battles against the English, this great seaman fell in the engagement with Monk, off the coast of Holland, Aug. 8, 1653. His son, Cornelius Van Tromp, born in Rotterdam, Holland, Sept. 9, 1629, rose also to eminence as a naval commander, and on De Ruyter's death, was appointed lieutenant-admiral-general of the United Provinces. He died May 29, 1691.

Troop, a cavalry command; also a title of a well-known New York mounted company. Also in plural, a general designation for all soldiers, whether foot or mounted.

Troopial, the name common to a group of passerine birds, akin to the orioles and starlings. They mostly inhabit the Southern United States, but several of them appear as birds of passage in the Northern States in early spring. The cow troopial, cow birds, or cow bunting, the bluebird, and the bobolink or rice bunting, belong to this group.

Troostite, a variety of willemite, occurring in large opaque crystals, which are mostly impure from the presence of iron and manganese. Found with franklinite, etc., in the State of New Jersey.

Tropæolaceæ, Indian cresses; an order of hypogynous exogens, alliance Malvales; smooth, twisting or twining herbs of tender texture and acrid taste, from the temperate parts of America.

Trope, in rhetoric, a term applied to a word or expression diverted from its original to a figurative signification, and thus including allegory, irony, metaphor, metonymy, synecdoche, etc.

Trophi, in entomology, the organs about the mouth in insects. These are of two types, the masticatory and the suctorial, which are sometimes modified and occasionally combined.

Trophis, a small tree found in both the East and West Indies. T. americana, the Ramoon tree, is about 20 feet high, and bears pleasantly flavored drupes about the size of grapes. It is a native of the West Indies, where the leaves and twigs are eaten by cattle.

Trophonius, the fabled builder of the temple of Delphi, after his death was reverenced as a hero, and had a famous oracle in a cavern near Lebadeia in Bœotia.

Trophy, a monument or memorial in commemoration of a victory. It consisted of some of the arms and other spoils of the vanquished enemy,

hung upon the trunk of a tree or a pillar by the victors, either on the field of battle or in the capital of the conquered nation. If for a naval victory it was erected on the nearest land.

Tropic, in astronomy, one of the two small circles of the celestial sphere, situated on each side of the equator, at a distance of 23° 28′, and parallel to it, which the sun just reaches at its greatest declination N. or S., and from which it turns again toward the equator, the N. circle being called the Tropic of Cancer, and the S. the Tropic of Capricorn.

In geography, one of the two parallels of terrestrial latitude corresponding to the celestial tropics, being at the same distance from the terrestrial equator as the celestial tropics are from the celestial equator. The one N. of the equator is called the Tropic of Cancer and that S. of the equator the Tropic of Capricorn. Over these circles the sun is vertical when his declination is greatest, and they include that portion of the globe called the torrid zone, a zone about 47° wide, having the equator for a central line.

The regions lying between the tropic of Cancer and the tropic of Capricorn, or near them on either side, are called the tropics.

Tropic Bird, a popular name for any species of the genus Phaëton. They are tropical sea birds, in habits and general appearance approaching gulls and terns, and resembling the latter in their mode of flight. Their powers of flight are great, and they are usually seen at considerable distances from the land.

Trotter, Newbold Hough, an American artist; born in Philadelphia, Pa., Jan. 4, 1827; was graduated at Haverford College in 1845; engaged in mercantile business till 1858, when he applied himself to art. When the Civil War broke out he joined the Germantown Home Guards and took part in the battle of Antietam. After the war he practised his profession till his death. He was selected by the United States government to paint all the mammalia of North America to be issued by the government. His historic paintings include three pieces representing the progress of travel in Pennsylvania during 50 years. Died in Atlantic City, N. J., Feb. 21, 1898.

Trotting Horse, a horse trained to trot at high speed without breaking into a gallop. Trotting horses are of two distinct races: (1) The Russian, which is Arabian on a Flemish stock, attaining high speed, but with bad knee action; (2) the American, which is probably both Barb and Arabian on an English stock. Some of the fastest American trotters have done a mile in a few seconds over two minutes.

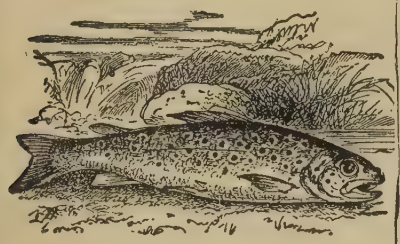
Troubadour, one of a class of poets which appeared first in Provence, in the S. of France, at the end of the 11th century. They were the inventors of a species of lyrical poetry almost entirely devoted to romantic and amatory subjects, and generally very complicated in its meter and rhymes. They flourished till the end of the 13th century.

Troubetzkoy, Amelie (Rives) (Chanler) Princess, an American novelist. See RIVES.

Trous-de-loup (wolf-traps), a military term for trap-holes or pits dug in the ground in the form of inverted cones or pyramids, in order to serve as obstacles to the advance of an enemy, each pit having a pointed stake in the middle. They were formerly much used, and the principle is still retained in modern obstructions.

Trout, a term applied generally to various species of fishes belonging to the salmon family. The best-known species, and that which par excellence receives the name, is the common trout, a fish which inhabits clear and running streams, and is mostly to be found tenanting some special nook from which it has to be warily drawn by the fly of the angler. The average weight of the common trout is from three-fourths to one pound. Fishes which exceed one pound in weight may be regarded as exceptionally fine specimens. The trout is found in all the large streams and lakes of Great Britain and of Northern Europe at large. A second species of trout is the salmon trout, which closely resembles the salmon in its general habits, especially in those relating to migration to the sea, and returning to the rivers

to spawn. Certain species of trout are confined to certain lakes or streams, and are not found outside the bounds of these waters. In such cases special markings indicate the specific character of the fishes.



COMMON RIVER TROUT.

Trouvere, a name given to a member of the class of ancient poets of Northern France, corresponding to the troubadour of Provence.

Trover, in law, a species of action on the case which is employed to try a disputed question of property in goods and chattels. The action is brought on a simple allegation that the defendant converted to his own use, or wrongfully deprived the plaintiff of the use and possession of the plaintiff's goods. In this action the plaintiff recovers damages equal to the value of the thing converted, but not the thing itself.

Trowbridge, John, an American scientist; born in Boston, Mass., in 1843; was graduated at the Lawrence Scientific School, Harvard University, in 1866; served as instructor there in 1866–1869. He was assistant Professor of Physics at the Massachusetts Institute of Technology in 1869–1870. He afterward founded a laboratory course in physics at Harvard University and was Professor of Experimental Physics in 1880–1888. In the latter year he accepted the chair of applied science in the same institution. In 1878 he was elected a member of the National Academy of Sciences and in 1883 was a delegate to the International Congress of Electricians.

Trowbridge, John Townsend, an American author; born in Ogden, N. Y., Sept. 18, 1827. He began his literary career in 1846, and in 1850 became editor of "The Yankee Nation," and of "Our Young Folks."

Trowbridge, William Petit, an American engineer; born near Birmingham, Mich., May 25, 1828; was graduated at West Point in 1848; superintended the erection of a self-registering magnetic observatory in Key West; was chief engineer in the construction of the fortifications at Willett's Point, on Governor's Island, and other points, and Professor of Engineering at Yale and Columbia Universities. Died Aug. 12, 1892.

Troy, city and capital of Rensselaer county, N. Y.; at the head of steamboat navigation on the Hudson, near the Erie and Champlain canals and the mouth of the Mohawk river, and on the New York Central & Hudson River and other railroads; 6 miles N. of Albany; has a large traffic by water with Atlantic coast and Canadian points; is one of the most important of Eastern manufacturing cities, with an annual output of over $40,000,000, and producing iron and steel goods, shirts, collars, and cuffs, cotton and knit goods, stoves, railroad cars and wheels, brick, lumber, and beer. Troy is the home of modern laundry work, and the seat of the Rensselaer Polytechnic Institute, Emma Willard School, La Salle Institute, St. Peter's Academy, and a State Asylum for the Insane. Oakwood Cemetery contains the Earl Crematory, the most costly one in the country. Pop. (1910) 76,813.

Troy, or **Troja,** in classical legend and geography, the name of a district in the N. W. part of Mysia, in Asia Minor, and of a city situated in it. The latter was also called Ilium, and the former Troas. According to the account of Homer, the city was situated on ground rising above the plain formed by the rivers Scamander and Simois. On the S. E. was a hill, which was a spur of Mount Ida, and on which were the acropolis of the Trojans called Pergamum, the palaces of the king, and the temples of the gods. There have been various opinions respecting the site of the ancient city, and many efforts made to reconcile

the present topography with the geographical statements made in the Homeric poems, the most important work in this line being the excavations of Schliemann in the Troad, at the mound of Hissarlik, long the traditional site of Troy.

Schliemann excavated Hissarlik, and came first on the remains of the Græco-Roman town, Novum Ilion, or New Troy; below it he dug out the ruins of four village settlements, one below another; below them he came on "the burnt city," and finally on the lowest, the oldest, the first city. This yielded in the way of relics principally pottery and stone implements. Metals were practically unknown to its inhabitants, who were plainly a settled pastoral and agricultural people. The interval that elapsed between the desertion and decay of this first city and the foundation of the next must have been long, for a layer of earth 1 foot 9 inches deep intervenes between the debris of the first and the second or "burnt city." The inhabitants of this city were, however, still in the stone age; but the number of gold and silver relics, and the presence of some copper implements, point to the approach of the bronze age, and seem to indicate a transition from the age of stone to that of metals. The two most important facts in connection with this city are the discovery of what Schliemann believed to be "Priam's Treasure" and the evidence that the city was destroyed in a conflagration. The treasure consists of big diadems of gold, chains and pendants of gold, golden earrings, all packed in a silver jar, bars of silver, 8,700 small gold rings, disks, buttons, and small bars of gold, silver vases, gold cups, electrum cups, silver daggers, etc. The whole of this treasure had been packed together and stowed away probably in a secret chamber constructed in the acropolis wall.

Troy Weight, a system of weights used for gold, silver, platinum, and precious stones. The Troy pound contains 12 ounces, 240 pennyweights, and 5,760 grains, being thus less than the avoirdupois pound, which contains 7,000 grains. The name Troy was given to the standard pound in 1495.

Truant School, a school for truant or vagabond children. In the United States, the establishment of schools purely of such a nature is quite recent. In 1850, Massachusetts passed a law permitting the punishment of truancy by confinement. New Hampshire, New York, Rhode Island, and Connecticut made similar legislation before 1865; and New York and other cities made like provisions; but where the law was not a dead letter, habitual truants were classed as "juvenile disorderly persons" and were sent to almshouses or reformatories. In 1880, Massachusetts began to establish county schools for truants. In 1900 there were in the United States six county schools and seven city schools of this nature, five in New York city, one in Boston and one in Chicago. Many States and cities provide for the arrest of truants and their being replaced in the public schools, a method followed in Continental Europe, where there are no institutions exactly parallel to the American truant school. In Great Britain there are two provisions for school offenders, the day industrial and the truant schools.

Truce, a suspension of arms by agreement of the commanders of opposing armies; a temporary cessation of hostilities, either for negotiation or other purpose.

Truck System, the practice of paying workmen in goods instead of money. The custom has been abolished in most of the United States.

True, Alfred Charles, an American statistician; born in Middletown, Conn., June 5, 1853; was graduated at Wesleyan University, Conn., and studied at Harvard University; was an instructor at Wesleyan University in 1884–1888. He then entered the United States Department of Agriculture; was editor in the office of the experiment station in 1889–1890, was vice-director of the same in 1891–1892 and became director in 1893. He was also made editor-in-chief of the "Experiment Station Record" and the "Experiment Station Work" and was given supervision of expenditures for agricultural experiment stations in all the States and Territories. He also took charge of investigations in irrigation, and in agriculture in Alaska, Porto Rico, and Hawaii.

True, Charles Kittridge, an American educator; born in Portland, Me., Aug. 14, 1809. He was pastor of various Methodist churches, and subsequently Professor of Intellectual Philosophy at Wesleyan University. Died in Brooklyn, N. Y., Jan. 20, 1879.

True, Frederick William, an American biologist; born in Middletown, Conn., July 8, 1858; was graduated at the University of the City of New York in 1878; became connected with the government service in 1878; and was appointed expert special agent on fisheries for the 10th census, 1879. He next served as custodian of the collections of the United States Fish Commission at the Berlin Fisheries Exhibition in 1880. He was curator of the department of mammalia at the United States Museum in 1881–1892, and was executive curator in 1892–1897. In the latter year he was made head curator of the Department of Biology at the United States National Museum.

Truman, Benjamin Cummings, an American author; born in Providence, R. I., Oct. 25, 1835; received a public school education; served on the staff of Andrew Johnson, military governor of Tennessee, in 1862. After the assassination of President Lincoln he was on the staff of President Johnson for 18 months; and served afterward as a special agent of the United States government to China, Japan, Europe, Hawaii, and Alaska. His publications include "The South During the War"; "Occidental Sketches"; etc.

Trumbull, Gurdon, an American ornithologist; born in Stonington, Conn., May 5, 1841; brother of Henry Clay.

Trumbull, Henry Clay, an American editor; born in Stonington, Conn., June 8, 1830. He was army chaplain, 1862–1865; afterward secretary of the American Sunday-School Union, 1865–1872; and after 1875 editor of the "Sunday-School Times." He published many books. Died 1903.

Trumbull, James Hammond, an American philologist; born in Stonington, Conn., Dec. 20, 1821; brother of Henry Clay. He was secretary of state of Connecticut during the Civil War, 1861–1864, and held many honorable posts connected with historical and educational associations. He was president of the American Philological Association in 1874–1875. He made the Indian languages of North America a special study; became an acknowledged authority on the Algonquin tongues; and published many essays on Indian philology. He was a frequent contributor to proceedings of historical societies. He died in Hartford, Conn., in 1897.

Trumbull, John, an American poet and lawyer; born in Westbury, Conn., April 24, 1750. He won his greatest fame with "McFingal," a satire on the loyalists of the Revolution time, written in Hudibrastic verse. His "Poetical Works" were published at Hartford, Conn., in 1820. He died in Detroit, Mich., May 10, 1831.

Trumbull, John, an American artist; born in Lebanon, Conn., June 6, 1756; grandson of the patriot Jonathan Trumbull; was graduated at Harvard College in 1773; studied painting in Boston; served in the Revolutionary War on the staffs of Generals Washington and Gates; became a pupil of Benjamin West. In 1786 he produced his first historical picture, the "Battle of Bunker Hill." After serving for several years as a secretary to John Jay, the American minister to England, and as a commissioner to execute the seventh article of Jay's treaty, he returned to his profession. In 1817 he was employed by Congress to paint four pictures for the rotunda of the Capitol at Washington. For these works which represented "The Declaration of Independence," the "Surrender of Burgoyne," the "Surrender of Cornwallis," and the "Resignation of Washington at Annapolis," he received $32,000. Subsequently he was for many years engaged in finishing former sketches and painting copies of the National pictures, many of which, together with portraits and several copies of old masters, he gave to Yale College in consideration of an annuity of $1,000. Died in New York city, Nov. 10, 1843.

Trumbull, Jonathan, an American patriot; born in Lebanon, Conn., Oct. 12, 1710; was graduated at Har-

vard in 1727; was successively judge, deputy-governor, and governor (1769–1783) of Connecticut; and took a very prominent part in forwarding the Revolutionary War. Washington placed great reliance on him, and frequently consulted him; to this habit, and his phrase, often repeated when in doubt, "Let us hear what Brother Jonathan says," has been traced the name which stands for a personification of the United States. He died Aug. 17, 1785.

Trumbull, Lyman, an American statesman; born in Colchester, Conn., Oct. 12, 1813; removed to Belleville, Ill., in 1837; became secretary of state of Illinois in 1841; and justice of the Supreme Court of the State in 1848. In 1854 he was elected to Congress as a Democrat, and in 1855 was chosen United States senator. He joined the Republican party on the anti-slavery principle, in 1860, and supported Abraham Lincoln; was re-elected to the Senate; secured the passage of the Fourteenth Amendment; and was one of the Republicans who voted against the impeachment of Andrew Johnson. Later, he became a Democrat. He died in Chicago, Ill., June 25, 1896.

Trumbull, Fort, a Revolutionary fort on the W. side of the Thames river, below New London, Conn., and opposite Fort Griswold. It is still garrisoned.

Trumpet, in music, a metal wind instrument of bright and penetrating tone, formed of a single tube of brass or silver, curved into a convenient shape, with a mouthpiece at one end, the other having a bell.

Trumpeter, one of the most important food fishes of the Southern Hemisphere. It ranges from 30 to 60 pounds in weight, and is considered the best flavored of any of the fishes of New Zealand, Tasmania, and South Australia. Large numbers are smoked and sent into the interior. In ornithology, any species of the genus Psophia. They are South American birds, allied to the crane, inhabiting the forests, frequenting the ground in search of grain for food, and often betraying their presence by their loud call, whence both their popular and scientific names are derived.

Trumpet Flower, a name applied to various large tubular flowers.

Trumpets, Feast of, in Jewish antiquity, a feast on the first day of the seventh month (Tisri), which was to be kept as "a sabbath, a memorial of blowing of trumpets, an holy convocation." No servile work was to be done in it; but an offering of fire was to be presented to Jehovah. It preceded by 10 days the Great Day of Atonement. The first of Tisri was New Year's Day of the civil year. It is still observed as a Jewish festival.

Trumpet Shell, in zoölogy, from the West Indies, Asia, and the South Seas. It is employed by the Australian natives and the South Sea Islanders as a trumpet.

Trumpet Weed, in botany: (1) The popular name for Eupatorium purpureum; found on low grounds in the United States, flowering in August and September.

Trunk Hose, a kind of short, wide, breeches, gathered in above the knees, or immediately under them; worn in England during the reigns of Henry VIII., Elizabeth, and James I.

Trusdell, Charles Gregory, an American philanthropist; born in Montgomery, N. Y., May 1, 1826; received an academic education; studied theology and was ordained in the Methodist Episcopal Church in 1857; was presiding elder of the Iowa City district in 1865; pastor in Chicago till the fire of 1871. He was then made general superintendent of the Chicago Relief and Aid Society. After the relief of the fire sufferers, the society was continued for the benefit of the poor in Chicago, and Mr. Trusdell was made superintendent. Died 1903.

Truss, in architecture, an ornamented corbel, serving to support an entablature or balcony, or to conceal the ends of the beams which really support the structure; in the latter case it is frequently made of galvanized sheet iron. In carpentry, a frame to which rigidity is given by staying and bracing, so that its figure shall be incapable of alteration by the turning of the bars about their joints.

Truss Beam, an iron frame serving as a beam, girder, or summer. A wooden beam or frame with a tie rod to strengthen it against deflection.

Truss Bridge, a bridge which depends for its stability on the application of the principle of the truss.

Trust, an arrangement by which property is handed to or vested in a person, in the trust or confidence that he will use and dispose of it for the benefit of another.

The term "trust" has been of late applied, especially in the United States to an arrangement for the control of several companies under one direction, to cheapen expenses, regulate production, and lessen competition.

Trustee, one who holds lands, tenements, or other property, on the trust and confidence that he will apply the same for the benefit of those who are entitled. In law, a person in whose hands the effects of another are attached in a trustee process.

Truxtun, Thomas, an American naval officer; born in Long Island, N. Y., Feb. 17, 1755; joined the navy in 1767. When the Revolutionary War began he was in command of the "Andrew Caldwell," a merchant vessel in which he carried a cargo of powder to Philadelphia. During the same year his vessel was captured by the frigate "Argo." He was then made a lieutenant in the navy and assigned to the "Congress," the first American private equipped ship. In all of his engagements with the enemy he was uniformly victorious. In 1798, when the United States navy was organized, he was selected as one of its six captains, and was placed in command of the "Constellation," and was ordered to protect American commerce in the West Indies. In February, 1799, he fought a severe battle with the powerful French ship "L'Insurgente" and captured her after killing 29 of her crew and wounding 44. In January, 1800, he defeated the French frigate "La Vengeance." In 1802 he was assigned to command a fleet to participate in the war with Tripoli, and went to Norfolk to join the "Chesapeake." About the same time he requested the appointment of a captain for his flagship. His letter was taken to mean his resignation, which was accepted against his wishes. He died in Philadelphia, Pa., May 5, 1822.

Trygon, in ichthyology, the sting ray. Some 25 species are known, chiefly from the tropical parts of the Indian and Atlantic Oceans, though some are from the fresh waters of E. tropical America.

Tryon, Sir George, a British naval officer; born in 1832; entered the navy in 1848; was at Sabastopol; became captain in 1866, and admiral in 1884. He was commander-in-chief on the Australian station in 1884–1888, and in the Mediterranean from 1891 till the disastrous collision (June 29, 1893) off the coast of Syria, when his flagship, the "Victoria," by his mistaken order, collided, capsized, and sank with her commander and great part of her crew.

Tryon, George Washington, an American conchologist; born in Philadelphia, Pa., May 20, 1838; was educated at the Friends' School of Philadelphia. In 1865 he originated the movement for the construction of the present edifice of the Philadelphia Academy of Natural Sciences; became curator of the Academy in 1869 and had charge of the arrangements of the library and the many collections of the museum in the new building. In 1865–1871 he was the editor of the "American Journal of Conchology." Died in Philadelphia, Pa., Feb. 5, 1888.

Tryon, William, a British colonial governor; born in Ireland, about 1725; joined the British navy and as an officer did creditable service. He was made lieutenant-governor of North Carolina in June, 1764, and became governor in July, 1765. In 1771 he was made governor of New York. The patriots detested him on account of his arbitrary rule and especially for the cruelty he manifested in the destruction of Fairfield, Danbury, and Norfolk, Conn., expeditions against which he personally conducted. He relinquished the office of governor in 1778, and returned to England. He was promoted Major-General, and Lieutenant-General. He died in London, England, Feb. 27, 1788.

Tschudi, Egidius, or, as he wrote himself, **Gilg Schudi,** the father of Swiss history; born in Glarus in 1505; studied in Basel and Paris; was in 1533 and 1549 high bailiff at Baden, and for some time a captain in the French service; afterward traveling much among the Swiss mountains in

search of materials for his historical studies. In 1558 he became "Landammann" of Glarus; in 1559 was envoy to the Kaiser Ferdinand I. The chief of his numerous historical works is the "Chronicon Helveticum," embracing the period 1000–1414. Many unpublished MSS. of Tschudi are preserved in the libraries of St. Gallen and Zurich. He died in Glarus, Feb. 28, 1572.

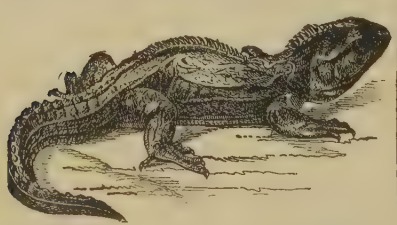
Tschudi, Johann Jakob von, a Swiss naturalist; born in Glarus, Switzerland, July 25, 1818. He traveled extensively in South America. He died in Austria, Oct. 8, 1889.

Tsetse. See SLEEPING SICKNESS.

T-square, a draughtsman's ruler; so named from its resemblance to the letter T. The blade is set at right angles to the helve.

Tuamotu Islands, Paumotu, or Low Archipelago, an extensive group of islands in the Pacific, lying E. of the Society Islands and S. of the Marquesas; mostly under French protection.

Tuaregs, Tuaricks, or **Tawarek,** a nomadic race of Berber origin inhabiting the Sahara between lon. 5° W. and 13° E., and across its entire breadth. They are the finest of the Sahara races, being handsome and powerfully made, but are fierce and are perpetually at war among themselves. They profess Islamism, but are more influenced by pagan superstitions. Their women go unveiled, and take part in public affairs.



TUATERA, OR NEW ZEALAND LIZARD.

Tuatera, a large lizard from New Zealand; apparently carnivorous, and in captivity are fed on raw meat, living frogs, small lizards, earthworms, mealworms, snails, young birds, or mice.

Tuba, a wind instrument, the lowest as to pitch in the orchestra.

Tube. See TUNNEL.

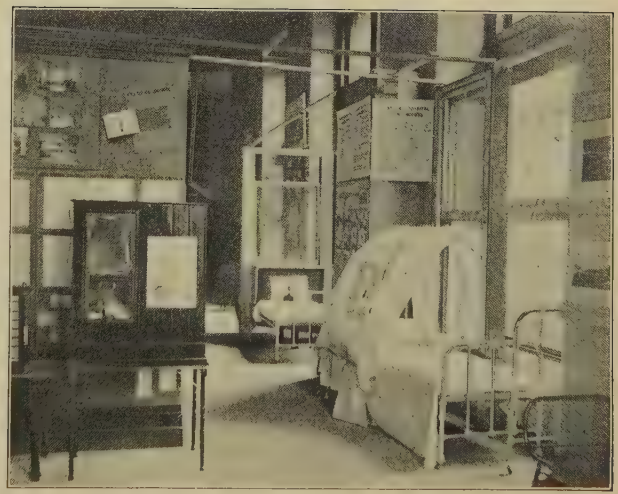
Tuber, in botany, an underground fleshy stem or appendage to the root, being usually an oblong or roundish body.

Tubercle, a small tuber; a warty excrescence; in pathology, a growth usually taking the shape of minute round masses, and developing in the lungs, intestines, larynx, etc., of persons of scrofulous constitution.

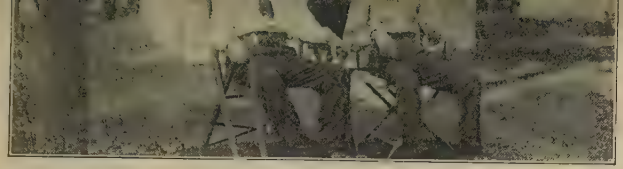
Tuberculosis, a general disease due to the formation of tubercles (see TUBERCLE) in various organs of the body. The prevalence of tuberculosis in cattle, and the possibility of tuberculous cattle communicating the disease to human beings through the medium of the meat of slaughtered animals sold for food, have occasioned much discussion among scientists. Tuberculosis is in some instances a hereditary disease, the germs of which are born with the individual, and ready to be developed on the least exciting cause. But it is very doubtful whether it is generally so.

DOUBLE TUBEROSE.

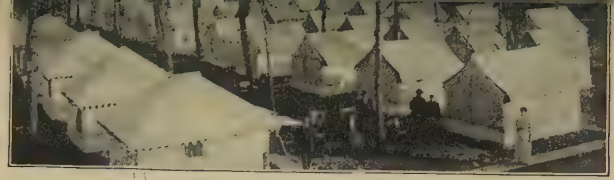
Tuberose (Polianthus), a genus of plants of the natural order Liliaceæ. The plant is in high esteem for the beauty and fragrance of its flowers, the odor of which is most powerful after sunset. The fading flowers emit, in certain states of the atmosphere, an electric light and sparks. The native country of the tuberose is Mexico. They are very extensively grown by American and British florists, who, by planting the roots successionally, manage to keep up a supply of flowers at all seasons. There are several varieties.



TUBERCULOSIS EXHIBIT



AN IMPROVED TENT



GROUP OF TENTS

A MOUNTAIN SANATORIUM

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MODERN METHODS OF TUBERCULOSIS TREATMENT

Tube Well, an iron pipe of small diameter, pointed, and having a number of lateral perforations near the end, driven into the earth by a small pile-driver hammer till a water-bearing stratum is reached. Where the depth exceeds 14 feet, two or more sections of pipe are screwed together.

Tubingen School, in Church history, the name given to two schools of theology whose chief representatives were connected with the University of Tubingen, either as professors or students.

The Old School.— This was essentially orthodox. Its founder was Gottlob Christian Storr (1746–1805), appointed Professor of Philosophy at Tubingen in 1775 and Professor of Theology two years later. He accepted unreservedly the divine authority of the Scriptures, and sought by grammatical and historical exegesis to build up a system of theology, and laid especial emphasis on the evidential value of miracles. He came into conflict with Kant, and criticized his "Religion Within the Limits of Pure Reason" somewhat severely.

The Modern School.— The principles of this school, founded by Ferdinand Christian Baur (1792–1860), also Professor of Theology at Tubingen, were in direct opposition to those of Storr.

Tubipora, the organ-pipe coral. There are several species from the Red Sea and the Pacific.

Tubular Bridge, a bridge formed by a great tube or hollow beam, through the center of which a roadway or railroad passes. Notwithstanding the success of these structures, the tubular form has been to a great extent superseded by the lattice bridge, patented in 1835, and since that time much used for spanning rivers of great breadth.

Tub Wheel, a form of waterwheel which has a vertical axis and radial spiral floats, which are placed between two conical cases attached to the axis. The water is precipitated from a chute upon the wheel, and follows the spiral canals of the wheel till it is discharged at the bottom.

Tuckahoe, or Tuckahoo, an Indian name given to a vegetable substance of doubtful affinity, dug up in various parts of the United States, sometimes of the size or shape of a loaf of bread and hence called "Indian loaf." It consists almost entirely of pectic acid, the chemical substance which, occurring in currants and other fruits, renders it possible to coagulate them into jelly. Tuckahoe is eaten by the North American Indians, who find it a nutritious food. Also, a derisive name applied by Western Virginians to the natives of tide water sections of that State.

Tucker, Abraham, an English philosophical writer; born in London, Sept. 2, 1705. He died in Beckworth, Nov. 20, 1774.

Tucker, George, an American educator; born in Bermuda in 1775; was graduated at William and Mary College in 1797; studied law and practised in Lynchburg. He was a member of Congress in 1819–1825. For 20 years he was Professor of Moral Philosophy in the University of Virginia (1825–1845). He wrote for many journals and periodicals. He died in Sherwood, Albemarle co., Va., April 10, 1861.

Tucker, Gilbert Milligan, an American author; born in Albany, N. Y., Aug. 26, 1847; was graduated at Williams College in 1867 and engaged in journalism. In 1897 he became editor-in-chief of "The Country Gentleman."

Tucker, John Randolph, an American naval officer; born in Alexandria, Va., Jan. 31, 1812; joined the navy in 1826 and was promoted lieutenant in 1837. During the Mexican War he was executive officer of the bomb brig "Stromboli," and took part in the capture of Tabasco and other operations. He was promoted commander in 1855. He resigned from the United States navy in April, 1861, and became a commander in the navy of Virginia. He participated in the repulse of the National fleet at Drury's Bluff, and was soon after promoted captain and sent to Charleston, S. C., to command the naval forces as flag-officer. In February, 1865, after the surrender of Charleston, he organized the naval brigade at Drury's Bluff and commanded it till the Confederate army retreated from Richmond. In 1866 he took command of

the Peruvian navy with the rank of rear-admiral. During the war between Peru, Chile, and Spain, he had command of the combined squadrons of the two republics. He afterward settled in Petersburg, Va., where he died June 12, 1883.

Tucker, William Jewett, an American educator; born in Griswold, Conn., July 13, 1839; was graduated at Dartmouth College in 1861, and at Andover Theological Seminary in 1866; was ordained in the Congregational Church and held several pastorates; was a professor in Andover Theological Seminary when he was called to the presidency of Dartmouth College in 1893.

Tuckerman, Bayard, an American writer; born in New York city, July 2, 1855; was graduated at Harvard College in 1878. His works include: "A History of English Prose Fiction"; "Life of Lafayette," etc.

Tuckerman, Edward, an American botanist; born in Boston, Mass., Dec. 7, 1817; was graduated at Union College in 1837 and at the Harvard Law School in 1839; studied for several years in Europe; returning to the United States in 1842 he accompanied Asa Gray to the White Mountains on a botanical expedition; was instructor in history at Amherst College in 1854–1873 and Professor of Botany there in 1858–1886. He was the foremost authority on lichenology in the United States. At different times he examined and classified specimens found by United States surveying parties. Tuckerman's ravine, on Mount Washington, was named after him. He died in Amherst, Mass., March 15, 1886.

Tuckerman, Henry Theodore, an American author; born in Boston, Mass., April 20, 1813. His works include: "The Italian Sketch Book"; "The Collector: Essays," etc. He edited with William Smith "A Smaller History of English and American Literature." He died in New York city, Dec. 17, 1871.

Tudor, the name of one of the royal families of England allied to the race of Plantagenets. The line embraced five sovereigns, and commenced in 1485 with Henry Tudor, Earl of Richmond, the grandson of Sir Owen Tudor, a Welsh knight of distinction, by his wife, the widow of Henry V., and who, after the battle of Bosworth Field, was proclaimed king by the title of Henry VII.; from him the crown descended to his son Henry VIII., whose son Edward VI. succeeded, and after him his two sisters, Mary and Elizabeth; the Tudor dynasty expiring with the death of the latter in 1603, when the house of Stuart succeeded.

Tudor Style, in architecture, a term applied to the Perpendicular style, from the fact that it attained its greatest development under Henry VII., the first of the Tudor line. The chapel which that monarch erected at Westminster is a famous specimen of this style. The term is applied specifically to late Perpendicular work.

Tuesday, the third day of the week, so called from the Anglo-Saxon god of war, Tiu, or Tiw. The Scandinavian form of the name is Tyr.

Tufa, a name given to a light, porous, calcareous stone, sometimes having the aspect of a sandstone, at others earthy and inclosing the decomposed remains of vegetable substances; composition, a carbonate of lime; deposited by springs, rivers, and heated waters which have traversed calcareous rocks; sometimes confounded with tuff which is the term specifically applied to a fragmentary deposit of a volcanic nature composed of heterogeneous materials.

Tufts College, a coeducational institution in Tufts College Station, Mass.; founded in 1855 under the auspices of the Universalist Church.

Tugboat, a small boat used for towing large vessels in and out of harbors, etc. They are also of great service in forcing a channel through the ice; in rescue work if there is a wreck or a ship on fire; in transporting car floats for the railroad companies and in towing great rafts of logs.

Tugendbund ("league of virtue"), a Prussian patriotic union founded at Konigsberg in 1808, ostensibly for the promotion of educational, social, and other reforms, but actually cherishing schemes for throwing off the French yoke. Regarded with some suspicion by the Prussian authorities, the association was dissolved in 1809.

Tug-of-war, a game in which a number of persons divide into two parties, each under the command of a leader. A line is marked out on the ground, and the two parties, laying hold of either end of a stout rope, try to drag each other across the line.

Tuileries, the residence of the French monarchs; on the right bank of the Seine, in Paris. Catharine de Medici, wife of Henry II., began the building (1564); Henry IV. extended it, and founded the old gallery (1600); and Louis XIV. enlarged it (1654), and completed that gallery. The side toward the Louvre consisted of five pavilions and four ranges of buildings; the other side had only three pavilions. During the revolution of 1830 the palace was sacked. It was restored by Louis Philippe to its former splendor, but in 1848 it was again pillaged. The Tuileries then became a hospital for wounded soldiers, a picture gallery, and the home of Louis Napoleon in 1851. On May 23, 1871, it was almost totally destroyed by fire (the work of the communists), and the remaining portions were removed in the year 1883.

Tula, an ancient and important manufacturing town of Central Russia, capital of a province of the same name on the Upa, an affluent of the Oka, 110 miles S. of Moscow. Its churches, its arsenal, museum, and government offices, and the ancient Kreml are the principal buildings. The principal industries are in iron and steel goods, especially the firearms of the great imperial gun factory or private workshops. The Russian army is largely supplied with muskets and small arms from the works of this town. Pop. 111,048.

Tulane, Paul, an American philanthropist; born near Princeton, N. J., in May, 1801, son of a French emigrant. He received a common school education, and in 1818 he went to New Orleans, opened a store for general merchandise. This business he continued to carry on for nearly 40 years, engaging at the same time in cotton and real estate speculations, and in 1857 he retired with a large fortune. About this time he bought the Stockton place at Princeton, where he subsequently resided. For many years he gave liberally to the charitable institutions of Princeton and New Orleans. In 1822 he gave to the city of New Orleans real estate, which with subsequent gifts aggregated $1,100,000, intending to add about $1,000,000 to the amount, but dying intestate, it fell to his heirs. This gift was used to found Tulane University. He died near Princeton, N. J., March 27, 1887.

Tulane University, an American educational institution in New Orleans, La., formerly known as the University of Louisiana, but reorganized on its present plan in 1884. Up to the time of his death, Paul Tulane, its founder had given it $1,100,000. It has a law department, medical department, College of Technology, College of Arts and Sciences, a department of philosophy and sciences, and the H. Newcomb Memorial College for Women, to which Mrs. Josephine Louise Newcomb gave $500,000. It also has as its school for medical students the Charity Hospital, containing 700 beds and accommodating 6,000 patients per annum. The various departments of the university are located in different parts of the city in modern buildings, with the most complete scientific, mechanical, and literary equipment.

Tule, the name given by the Mexican Spaniards in California to Scirpus lacustris, the club rush or bulrush, which grows abundantly in certain places in the country; two lakes in Upper California being called, in consequence, the Tule Lakes. It has been employed as a material for making paper, baskets, chair seats, etc. The root is astringent and diuretic.

Tulip, a genus of bulbous plants, with usually solitary flowers. The genus is restricted to the Old World, extending from Western Europe to Japan and the Himalayas; there are about 45 species. The common garden tulip has been cultivated away from its native country of Southern Russia and Armenia for upwards of three centuries. The first description given of it is by Conrad Gesner, in a memoir published in 1561. He had seen it in bloom in April, 1559, at Augsburg, in the garden of Herwart, who had received the seeds from Byzantium. It spread rapidly and appeared in most of the botanical books of the second half of the 16th cen-

tury. Into the Netherlands it was introduced in 1571, into England in 1577, and into France in 1610.

The taste for the tulip has since increased and their bulbs have become an article of commerce; it was carried to a ridiculous extent, and the tulip mania reached its height in Holland from 1634 to 1637. To develop all the beauty of form and color of which the tulip is susceptible requires the greatest care in its cultivation. From seed new varieties are raised, the seedlings blossoming at four to seven years. Hundreds of varieties have been established from time to time, which range under four groups — bizarres, byblœmens, roses, and selfs.

Tulip Tree, one of the most magnificent forest trees of temperate North America; attaining in favorable situations a height of 100–140 feet, with a straight, clear trunk. It is the only species of the genus — which belongs to the Magnolia family — and may be recognized by its large three-lobed leaves, with the middle lobe cut square at the end, and large solitary tulip-like flowers having greenish sepals, and petals variegated with yellow and orange.

Tulsa, city and capital of Tulsa county, Okl.; in what was formerly the Creek Nation, and on several railroads; 51 miles N. W. of Muskogee; is the center of the great mid-continent natural gas and petroleum fields, and in a section abounding in bituminous coal, limestone, shale, and hardwood forests; is chiefly engaged in developing these resources; and is the seat of Henry Kendall College (Presb.). Pop. (1910) 18,182.

Tumor, in surgery any morbid parasitic growth, generally, though not always, attended by swelling. Tumors are primarily divided into two classes, the first innocent, including non-malignant, solid, benign, or sarcomatous, and the second malignant growths.

Tumulus, a mound raised over a tomb, or, more rarely, as a memorial of some person or event. Tumuli are found in large numbers in all parts of the world. Many date from prehistoric times, and they are mentioned in the earliest writings of the human race. In the Bible three instances of this mode of burial occur (Josh. vii: 26, viii: 29; II Sam. xviii: 17); according to Homer, a tumulus was raised over Patroclus, and Dercennus, King of Latium, was said by Virgil to be interred in a similar manner. This method of interment continued down to historical periods, and is still practised among the savage races. Not improbably some traces of it linger in civilized communities in the practice of throwing earth on the coffin at a funeral. In size tumuli vary greatly, the larger probably marking the graves of chiefs or persons of distinction. At Upsala, in Sweden, there are three large and high tumuli close together, popularly supposed to be the burial places of Odin, Thor, and Freya. Most of the tumuli in Scandinavia, where they are extremely numerous, consist of large mounds, in which there is a passage leading into a central chamber, round the sides of which are placed the bodies of the dead. These tumuli closely resemble the dwelling houses of Arctic people, such as the Esquimaux. The determination of the age of tumuli is a very difficult problem. As a general rule, where the bodies have been buried in a sitting or contracted position, the tumulus belongs to the Neolithic Age; where the body has been cremated, to the Bronze Age; and where the body is in an extended position, to the Iron Age.

In the United States from the Rocky Mountains eastward to the Alleghenies, and from the S. shore of Lake Erie to the Gulf of Mexico, there are prehistoric tumuli, constructed by an extinct race of people. In the N. part of the district indicated, the mounds are few and small. In the S. part they are more numerous and of greater size and altitude. They are evidently of a common origin. The tumuli of Mexico and Peru are still greater in dimensions. In most that have been examined there have been found the bones of the dead and articles of use and ornamentation.

Tumut, selected in October, 1903, by the lower branch of the Australian Parliament as the Federal capital of the Australian commonwealth. It is a small town of about 2,000 inhabitants, situated in a rich agricultural district of New South Wales, on the river

Tumut, in Wynyard county, and is about one hundred miles W. S. W. from Goulburn, which is one of the more important country towns of that region.

Tundra, a term applied to the immense stretches of flat, boggy, country, extending through the N. part of Siberia and part of Russia, where vegetation takes an arctic character, consisting in large measure of mosses and lichens. They are frozen the greater part of the year.

Tunic, in classical antiquities, a very ancient form of garment in constant use among the Greeks and ultimately adopted by the Romans. The Roman tunic was a sort of shirt worn under the toga, and buckled round the waist by a girdle. It reached an inch or two below the knees, and the sleeves were so short that they merely covered the shoulders; for though tunics hanging down to the ankles, and with sleeves extending to the wrists and terminating in fringes were not unknown toward the close of the republic, they were always regarded as indications of effeminate foppery.

Tuning, the correct adjustment of the sounds of a musical instrument. Such instruments as the flute and horn are tuned without any difficulty, as, if the pitch is altered by accident, it affects every note, and may easily be rectified by varying the length of the pipe. The notes of the organ and pianoforte, however, are unconnected and independent, and require careful adjustment from time to time. Stringed instruments, such as the violin and harp, require tuning on every occasion on which they are used.

Tuning Fork, an instrument of steel, consisting of two prongs branching from a short handle, which, when set in vibration, gives a musical note. It was invented in 1811. Though the pitch of forks varies slightly with changes of temperature, or by rust, etc., they are the most accurate means of determining pitch.

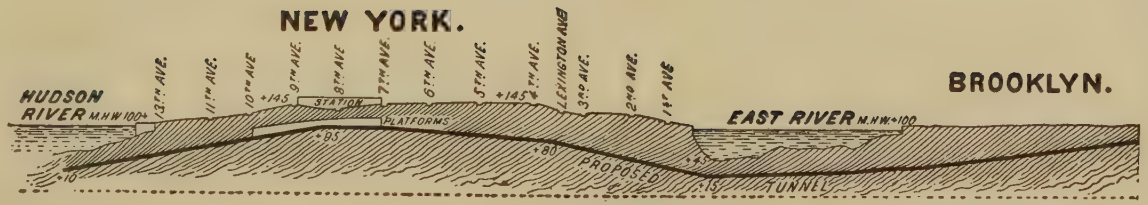
Tuning Hammer, or **Tuning Key,** an instrument consisting of a shank of metal with a cross-handle of wood or metal. The end of it is hollowed so as to fit on the ends of the tuning pins of pianofortes, harps, etc., and by it these instruments are tuned by increasing or decreasing the tension of the strings.

Tuning Pin, a movable pin, around the upper end of which the string of a pianoforte, harp, etc., is twisted, the other end of the string passing around a fixed pin. The instrument is tuned by turning the tuning pins with a tuning hammer.

Tunis, a country of North Africa, now a French protectorate; bounded on the N. and N. E. by the Mediterranean, on the S. E. by Tripoli, and on the W. and S. W. by Algeria; area, estimated at 51,000 square miles; pop. about 1,900,000. The coast line presents three indentations, forming the Bay of Tunis on the N., and those of Hammamet and Cabes or the Lesser Syrtis on the E. The N. W. portion of the country is traversed by the Atlas Mountains, which on their lower slopes have many fertile tracts, partly under culture. Between these mountains and the Gulf of Hammamet on the E. stretches the extensive plain or plateau of Kairwan. The only river of any consequence is the Mejerdah. The inhabitants consist of a mixture of Moors and Arabs, along with Berbers, here called Kroumirs, occupying the elevated tract N. of the valley of Mejerdah.

In ancient times Tunis belonged to the Carthaginians, afterward formed part of the Roman province of Africa, was subdued about 675 by the Arabs, became a powerful state under independent rulers in the 13th century, and in 1575 was incorporated with the Ottoman empire. In the spring of 1881 the French invaded Tunis, in order to punish the turbulence of the Kroumirs, and the French minister resident is now the virtual ruler of the country. Under French administration the Tunisian debt has been consolidated, commerce has increased, the means of transit have been improved, and a number of primary schools established. The resident army of occupation numbers 10,000 men.

Tunis, a city and capital of the protectorate of the same name; situated at the head of a salt lake, nowhere more than 6 feet deep, which communicates by a narrow channel with the Gulf of Tunis, an inlet 30 miles long. At the outlet of the lake is Goletta, the port of Tunis, whose har-

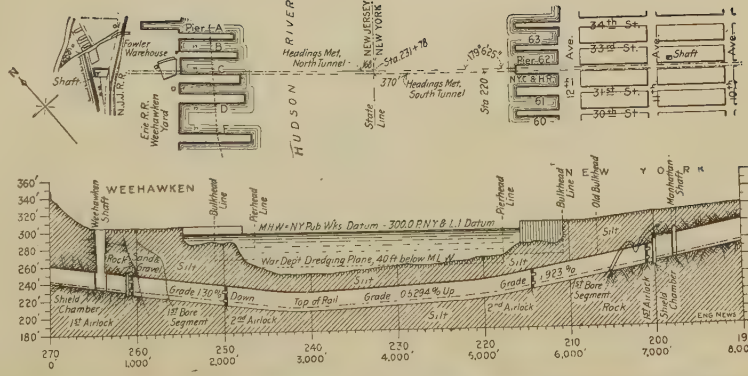


PENNSYLVANIA AND LONG ISLAND R. R. TUNNELS.

Tunnel

Tunnel

PLAN AND PROFILE OF PENNSYLVANIA RAILROAD TUNNEL



UNDER THE HUDSON RIVER AT NEW YORK

DRIVING SHIELD—BACK VIEW

FORCING SHIELD THROUGH SILT

PLACING SEGMENTS OF TUNNEL

COMPLETED SHELL

MODERN METHODS OF SUB-AQUEOUS TUNNEL CONSTRUCTION

bor is a roadstead with good anchorage, and is sheltered from the N. Goletta is connected by railway with Tunis. In January and February of 1912, during the Italo-Turkish War, Tunis was shelled by Italian warships, while fierce fighting took place ashore. The city has 14 schools and colleges, French and Jewish, and in the Grc Mosque is also a Mohammedan llege. A canal opened in 1893 renders Tunis directly accessible to ocean-going vessels. Pop. about 153,000.

Tunnel, in engineering, a horizontal or slightly inclined gallery beneath the surface of the ground; generally used for an aqueduct or for the passage of a railway, roadway, or canal. In the construction of railroads it is frequently necessary to pierce the hills, so as to preserve a line or road as nearly level as practicable. In mining, a level passage driven across the measures or at right angles to the veins which it is its object to reach. Thus distinguished from the drift or gangway which is led along the vein when reached by the tunnel.

A notable engineering feat was accomplished in 1893 in the completion of the boring of the Busk-Ivanhoe railway tunnel under the continental divide of the Rocky Mountains at Hagerman Pass., Col. The tunnel is almost two miles long and is through solid gray granite. It took three years and 20 days, of 20 hours' work each day, to make the excavation. It is 10,800 feet above sea-level, through the top ridge of the continent. Its construction cost $1,000,000 and 20 human lives. The tunnel substitutes two miles of track for ten. Among important modern tunnels are the New York city tunnels under the Hudson and East Rivers, the Boston City, Hoosac, St. Clair River, etc., tunnels in the U. S., and the Alpine tunnels, Cenis, Arlberg, Gothard, and Simplon.

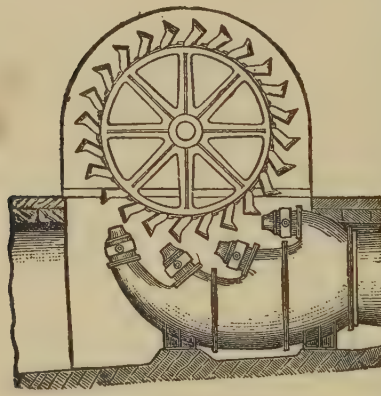
Tupper, Sir Charles, a Canadian statesman; born in Amherst, Nova Scotia, July 2, 1821; studied medicine in Edinburgh University and practised his profession in his native town. In 1855 he was made a member of the provincial legislature and was prime minister of Nova Scotia in 1864–1867. He warmly advocated the formation of the Dominion of Canada, which took place in 1867, and became a member of Sir John A. Macdonald's cabinet in 1870; became minister of public works in 1878; and in 1879–1884 was minister of railways and canals. While filling the latter office he promoted the construction of the great Canadian Pacific railway. In 1884 he was appointed High Commissioner for Canada in London. He was one of the negotiators of the fisheries treaty with the United States in 1887–1888, and was created a baronet in the latter year. In 1895 he represented Canada at the International Railway Conference in London.

Turanian, the title conferred on a vast family of combinatory or agglutinative languages, which is made to comprise every tongue of Asia and Europe that is not either Aryan or Semitic, with the exception of Chinese and its cognate dialects. This family falls into two great divisions, the northern and the southern; the northern being subdivided into five classes, Tungusic, Mongolic, Turkic, Finnic, and Samoyedic; the southern into four, Tamulic or the Dravidian languages of the Dekkan, Bhotiya or the dialects of Bhotan and Tibet, Taic of Siam, and Malaic of the Malay and Polynesian islands.

Turban, a wrapper worn round the head by Orientals. Turbans are an extremely ancient form of head-covering, and consist of long pieces — sometimes several yards — of fine linen, muslin, silk, taffeta, or fine woolen material, which is twisted and coiled round the head in a cushion-like form. They are worn by all classes, both indoors and out of doors. In Turkey, turbans vary in size and material according to the occupation, rank, or country of the wearer. Learned men affect a full white turban; the descendants of Mohammed always wear a dark-green turban, and the Christians of Lebanon wear a gracefully folded white turban. Some of the Eastern peoples adopt striped, colored silks, with fringes, placing several fezzes, one over the other, making a cumbersome, conical mound, and round these they wrap silken scarves. In Turkey the red fez, with a tassel of dark blue silk, has been extensively adopted, especially among the upper classes and on the sea coasts. In

India, the use of the turban is being rapidly discontinued by the higher classes, who have adopted in its place a brimless cap, which is frequently enriched by embroidery of gold, silver, or silken threads on colored velvet.

Turbine, in mechanics, a term formerly confined to horizontal water wheels, the revolution of which is due to the pressure derived from falling water, but now applied generally to any wheel driven by water escaping through small orifices subject to such pressure. The turbine was invented by Fourneyron in 1823, and the first



TURBINE: PELTON WHEEL.

one was made in 1827. Air and steam turbines are also in use, air and steam being used instead of water to drive the impulse wheel.

Turbine Engine, one driven by means of steam turbines, on the "multiple step" system, invented by C. A. Parsons, in 1884.

Turbine Steamers, fitted with turbine engines as a prime mover for navigation instead of the complex type of reciprocating engine, have been adopted since the success of the "Turbina" in 1894, which attained a speed of 34½ knots per hour, was followed by the British torpedo boat destroyer "Viper," which developed 10,000 horse-power and 43 m. per hour. Battleships and ocean liners are now built as turbine steamers.

Turchin, John Basil (Ivan Vasilevitch Turchininoff), a Russo-American military officer; born in the province of Don, Russia, Jan. 30, 1822; was graduated at the Artillery School, St. Petersburg, in 1841; appointed ensign in the artillery service; took part in the Hungarian campaign; and was graduated at the military academy for officers of the general staff and appointed on the staff of the Imperial Guards in 1852. He was a colonel in the Crimean War. In 1856 he removed to the United States, and was engaged in civil engineering till the Civil War broke out, when he was commissioned colonel of the 19th Illinois Volunteers. He was promoted Brigadier-General of Volunteers in 1862; served in the Army of the Cumberland till 1864; and then resigned his commission. He was solicitor of patents in Chicago after the war; resumed his profession of civil engineer in 1870; and established the Polish Colony of Randone, Washington co., Ill., in 1873, where he afterward lived. He died in Anna, Ill., June 19, 1901.

Turenne, Henri de la Tour d'Auvergne, Vicomte de, a French military officer, second son of Henri, Duc de Bouillon, and of Elizabeth, daughter of William I., Prince of Orange; born in Sedan, Sept. 11, 1611. At the age of 13 he went to learn the profession of arms under his uncles, the Princes Maurice and Henry of Nassau. Recalled (1630) to France by Richelieu, he was made colonel of a regiment, and first distinguished himself at the siege of La Motte in Lorraine. In the campaigns of 1637–1638 he captured Landrecies, Soire-le-Chateau, Maubeuge, Brisach, etc. During 1639–1642 he served in Italy. He received the title of Marshal of France.

Toward the close of 1643 he was sent to the Rhine, and entrusted with the command of the French troops. His achievements during the last five campaigns of the Thirty Years' War proved him a leader indomitable in spirit and inexhaustible in resource. May 17, 1648, he utterly defeated Montecuculi and Melander at Sommershausen on the road to Augsberg. This victory, followed by that of Conde over the Spaniards at Lens, brought about the peace of Westphalia

(Oct. 24, 1648), and closed the Thirty Years' War.

His devastation of the Palatinate (1674), though done under express orders, has left a dark stain on his reputation. On July 27, 1675, he was killed by a cannon ball at the battle of Salzbach.

Turgot, Anne Robert Jacques, a French statesman; born in Paris, France, May 10, 1727. He was educated for the Church, but renouncing this purpose he studied law, and in 1671 was appointed intendant at Limoges, which post he occupied for 12 years. Shortly after the accession of Louis XVI. in 1774 Turgot was appointed comptroller-general of France. Such, however, was the opposition of the clergy and nobility to his reforms that he was dismissed from office in 1776, and retired into private life. He died in Paris, March 20, 1781.

Turin, a city of North Italy; capital of a province of the same name; at the confluence of the Dora Riparia with the Po, and between those two rivers. The city is essentially modern. The chief buildings are the cathedral, a renaissance building, completed in the beginning of the 16th century, and remarkable for its marble facade; the royal palace, a plain brick building, which contains the king's private library, with valuable MSS., and the royal armory; the university, the Palazzo dell' Accademia delle Scienze, with a picture gallery and museums of natural history and antiquities; the Palazzo Carignano, used at one time by the Sardinian and Italian Parliaments when they met here (1848–1865), and now given up to a collection of natural history. It was long the capital of Savoy, then of the Sardinian kingdom, and from 1861 to 1865 of United Italy. Pop. 355,800.

Turin Nut, in geology, a familiar name for a fossil, resembling a walnut in appearance, found in the Newer Tertiary deposits near Turin.

Turkestan ("land of the Turks"), the name of a wide, longitudinal, depressed region in Central Asia, which comprises the basins of the Amu-Darya and the Tarim. Divided by the Pamir Plateau, into two distinct portions, it has a total estimated area of 1,576,400 square miles. Eastern Turkestan shades off into the Desert of Gobi, while Western Turkestan, sinking to the level of the Kirghis Steppes, extends to the shores of the Caspian. These two regions have a very dissimilar character.

Within Western Turkestan are comprised the Russian government-general of Turkestan, the tributary khanates of Bokhara and Khiva, the Turcoman steppes, and the independent hill districts of Karategin on the Upper Oxus. The country is nearly synonymous with the basin of the Amu-Darya, and Russia holds both the right bank of the river in what used to be Khivan territory, and its delta, green with rice fields. The Amu valley and delta are covered with a grey clay, impermeable to water, and therefore invaluable to the inhabitants for the construction of canal banks. The non-irrigated and far greater part of Western Turkestan, with the exception of a few table-lands, is covered with black or yellow sands, and the only land fit for cultivation, in addition to the oases along the river, are the slopes of the hills. Khiva is the principal of the oases, and the Amu-Daria, at its greatest height in July, overflows the desert in the direction of the Caspian for 50 miles. By November, 1874, the Russians had finished works at Khojend which were capable of irrigating 43,200 hectares.

The climate is one of extremes, and the heat of autumn is aggravated by a wind laden with fine dust which is almost suffocating, and darkens the air for a week at a time. The Russian flotilla on the Aral draws supplies from the rich coal deposits on the Syr-Daria, while the Thian-Shan and its spurs are particularly rich in iron, lead, rock salt, and naphtha. Gold is found in the Obi district, and in the Karatan Mountains are extensive coal deposits, besides valuable ores. Wheat and clover are the winter crops; all other cereals, such as maize, millet, barley, rice, and peas, are sown in April and gathered in August. Grapes are cheaper than potatoes and yield a good wine. Bokhara cotton is of excellent quality. Tobacco and silk are also largely produced. The chief races are Usbegs, who are purely Turkish; Tajiks, the Iranian and trading people; the predatory Turcomans, Turks

with an Iranian infusion; and the nomad Kirghis and Kara-Kalpacks. The Russian government of Turkestan was formed in 1867; area, 257,134 square miles, and pop. 2,670,035.

Eastern Turkestan is called Nan-ly by the Chinese, Altai-shar ("six towns") by adjoining Mohammedans, and Iiti-shar ("seven towns") by its Moslem rulers. It may be considered as identical with Kashgar. Till 1853, Eastern Turkestan was a Chinese province, and subsequently it was ruled by its despot liberator, Yakoob Beg, till his death in 1877. He was succeeded by his son, but the Chinese government recovered its lost territory in 1879.

Turkey, a Mohammedan State of Southeastern Europe and Western Asia; under the rule of a sultan. In Europe it occupies a considerable portion of the Balkan peninsula, and in this portion is situated the capital, Constantinople, but the larger part of Turkey is in Asia. The immediate possessions of Turkey in Europe, extend from Montenegro, Bosnia, Servia, and Eastern Rumelia on the N. to the Ægean and Greece on the S., and from the Black Sea to the Adriatic, the Straits of Otranto, and the Ionic Sea. In 1878 the area under Turkish rule was reduced, and the independence and the limits of several of the formerly tributary states extended. There are still nominally under Turkey the autonomous province of Eastern Rumelia; the island of Crete; the tributary principality of Bulgaria. The provinces of Bosnia and Herzegovina, under Austrian control until 1908, were annexed by Austria in that year. Several islands in the Ægean belong to Turkey. Egypt also is nominally part of the Turkish dominions. Total area in Europe, Asia, and Africa, 1,576,700 square miles; pop. 38,791,000.

European Turkey.—European Turkey is traversed in different directions by numerous mountain chains, but the main systems are the Balkan range, stretching from W. to E. between Bulgaria and Eastern Rumelia to Cape Emineh on the Black Sea; Rhodope, S. of the Balkans; the Shardagh and Grammos on the W., continued N. W. under various names into Bosnia and Herzegovina. The most important river basin is that which drains into the Archipelago or Ægean Sea, which receives the Vardar, the Struma, the Mista or Karasu, and the Maritza. There are several plains remarkable for their fertility and beauty. The climate is not so mild as its latitude might seem to indicate, the winter being severe; but the summer heat is excessive. For the production of the ordinary cereals no part of the world is more admirably adapted. The principal grains are maize, wheat, and barley, while rice, millet, and buckwheat, are produced, as also flax, hemp, sesame, and madder. The cultivation of tobacco and cotton is very general. Among fruits the figs are highly esteemed; the cultivation of the olive is carried on along the coasts of the Archipelago and the Adriatic; wine is an important product in many districts; and much attention is paid in some parts to the growing of roses. There are few manufactures except in Constantinople, Adrianople, and Salonica, and these are of little importance.

Turkey in Asia includes Anatolia, otherwise known as Asia Minor, the country intersected by the Euphrates and the Tigris, the mountainous region of Armenia between their upper courses and the Black Sea, the ancient lands of Syria and Palestine, and the coast strips of Arabia along the Red Sea and Persian Gulf. Omitting Arabia, the country consists mainly of: (1) a high plateau traversed by the mountains of Taurus and Anti-Taurus, and stretching from the Archipelago to the borders of Persia. (2) A plateau of less elevation and extent (Syria and Palestine) traversed by the double range of Lebanon. (3) The extensive plain of Mesopotamia on the Lower Tigris and Euphrates. The islands Chios, Lesbos, Rhodes, etc., belong to Turkey in Asia, while the island of Samos is a tributary principality, and Cyprus is held by Great Britain. The chief towns in Asiatic Turkey are Smyrna, Damascus, Bagdad, Aleppo, and Beyrout.

The chief exports are raisins, figs, and dates, silk, cotton, wool, and mohair, opium, coffee, wheat, wine, valonia, olive oil, and tobacco; while the imports are cotton, woolen, and silk goods, metals, iron, steel, glass

wares, etc. The principal railways are those from Constantinople to Adrianople, and from Salonica to Uskup; total length of lines open for traffic in 1900 was 3,000. The length of telegraph lines is about 21,800 miles.

The inhabitants of the Ottoman empire are of very diverse races. First in order are the Osmanli Turks, who, as the dominant race, are diffused over the country. The Greeks form the bulk of the population over great part of the Ægean coasts and islands. Arnauts, or Albanians, are found in the W. throughout Albania; the N. W. is occupied by Servians; and Bulgarians inhabit the district S. of the Danube and E. of Servia and Albania. In Asiatic Turkey the Turks are an important element, but there are also numbers of Armenians, Arabs, Kurds, Jews, Greeks, Circassians, etc.

Turkey, long under a despotic monarch, has now a constitutional government. Its ruler, the sultan, is regarded by the Turks as the caliph or head of Islam. His edicts bear the name of Hattisherif, and his government is often designated as the Sublime Porte. The public officers who conduct the administration under the Sultan are divided into three classes. The first class is that of law and religion, and at their head is the Sheik-ul-Islam, who governs a judicial and ecclesiastical body called the Ulemas. The second class consists of the "officials of the pen," or the members of administration, and at their head is the grand-vizier of Sadrazam. The third class includes the "officials of the sword," at their head being the Seraskier or minister of war, and the Capudan Pasha or minister of marine. The immediate possessions of the Turkish empire are divided into general governments or vilayets, at the head of each of which is a governor bearing the title of vali. The vilayets are themselves subdivided into sanjaks, administered by mutessarifs; and these again into kazas administered by kaimakams.

The established religion of Turkey is Mohammedanism, but Christianity under the Greek form is professed by a large majority of the Greeks and Bulgarians, while part of the Albanians are Roman Catholics. The educational system of Turkey, in accordance with the law of 1869, provides for the erection of elementary schools in every commune, and of secondary schools in the larger towns.

The earliest notice of the Turks or Turcomans, in history is about the year 800, when, issuing from various parts of Turkestan, they obtained possession of a part of Armenia, called from them Turcomania. They afterward extended their conquests over the adjacent parts of Asia, Africa, and Europe, occupying Syria, Egypt, and eventually the territory that remained to the Greek empire. In 1453 Constantinople was taken by Mohammed II., and became the capital of the empire. The Morea and the Islands were afterward overrun, with parts of Hungary, the Crimea, and the shores of the Black Sea. They next took the whole of the country now forming Turkey in Asia, the Hezja in Egypt, and the regencies of Tripoli, Tunis, and Algiers. From the accession of Mohammed IV. in 1648, the Turkish empire began rapidly to decline. The shelter given to Charles XII. of Sweden, in 1711, led to the first war with Russia.

From that time till 1774 the war with Russia was frequently renewed, and, by the peace of the latter year, a large extent of territory and the Black Sea were ceded by the Porte to Russia. In the campaign of 1787 the Turks were still more unfortunate, and, though in 1789, under Selim III., they retook Belgrade, they were elsewhere defeated. In 1807 the Emperor Alexander declared war against the Porte, and in the campaign advanced his frontier to the Pruth by the conquest of Bessarabia; the next severe loss the Turks sustained was from the revolt of the Greeks and the subsequent independence of their country. In 1854 war was once more declared against Turkey by Russia, when England, France, and Sardinia joined the Porte to enable the Sultan to resist the threatened invasion of his dominions. Turkey, for the first time in nearly a century, sheathed the sword without the loss of a foot of territory. Subsequently, Turkey engaged in a war with the Montenegrins, who sought to cast off her yoke; and, later, was concerned in suppressing revolutionary tendencies in the Danubian principalities. In 1875, an insurrec-

tion broke out in Herzegovina, and in October, Turkey declared her partial insolvency.

In February, 1876, the six great European Powers proposed a scheme of reform which was accepted by the Sultan. On May 30 Sultan Abdul-Aziz was deposed. His nephew, Murad V., succeeded him, but was also deposed and followed, Aug. 31, by his brother, Abdul-Hamid II. Turkey was badly beaten in a war with Russia in 1877, an armistice being signed in 1878. The terms of the treaty of peace at San Stephano were subsequently modified at the Congress of Berlin. On April 19, 1897, Turkey was forced by Greece to declare war. The war was short and ended in Turkey's favor on June 3, Greece agreeing to pay a war indemnity of $2,000,000. In 1908 the Sultan Abdul-Hamid II. was forced by a reform organization called the Young Turks to grant a constitutional legislative government. In April, 1909, he plotted to overthrow this, with the result that he was taken prisoner by the revolutionary army, deposed, and imprisoned, his brother succeeding as Mehmed V. During these events the Moslems of eastern Asia Minor rose against the Armenian Christians and massacred great numbers of them. On Sept. 29, 1911, Italy declared war against Turkey, alleging grievances of many years' standing. The war lasted till Oct. 19, 1912, and Turkey practically lost all of Tripoli. While terms of peace were pending, the Balkan States declared war against Turkey, and, under crushing defeats, the latter sought mediation by the Powers, Nov. 3.

Turkey, the largest of the game birds, and for that reason domesticated from a great length of time. They often weigh from 20 to 60 pounds, and measure at least 3 feet in height; but the wild birds are much finer than the domesticated race, which, contrary to the general rule, has degenerated under the care of man. They are gregarious and inhabit the E. portion of North America, feeding on grass, grain, insects, fruit, etc. The domesticated birds may be seen in every farm yard, and large numbers are bred and fattened. The bird is a native of America.

Turkey Buzzards, or **Turkey Vultures,** like the other vultures, feed on carrion, but their habits vary somewhat with locality; in the Southern United States they act as scavengers in the towns.

Turkish Bath, a popular form of hot air bath, in which the recipient, after being subjected for some little time to a considerable temperature, is vigorously rubbed down, and is then conducted through a series of cooling chambers till he has regained his normal temperature. All secretions and accretions are thus completely removed from the skin, which is left free to perform its functions healthily.

Turkomans, a nomadic Tartar people occupying a territory stretching between the Caspian Sea and the Sea of Aral, the khanates of Khiva and Bokhara, Afghanistan, and Persia.

Turks, an important and widespread family of the human race; found from the banks of the Lena through Central Asia and Asia Minor to the European shores of the Bosporus and the Ægean. Formerly classed among the Turanian peoples, it is now more usual to say that they are of the Mongolo-Tartar ethnological group, and speak languages of the Ural-Altaic family. To them belong at the present day Yakuts, Siberian Tartars, Kirghizes, Uzbegs, Turkomans, Karakalpaks, Kazan Tartars, and Dungans, as well as the Ottoman Turks.

Turmeric, a handsome herbaceous plant, the flowering stem of which has long, narrow, sheathing leaves, and above these a leafy spike of yellow flowers. It is cultivated all over India, but it is also grown in the East Indian Islands, China, and the Fijis. The tubers, which are yellowish externally, yield a deep yellow powder of a resinous character. Mustard is frequently adulterated with turmeric, and so also are some other substances. Turmeric has an aromatic taste and a peculiar odor not unlike that of ginger. The odor is due to an essential oil called turmerol, of which the tubers contain about 1 per cent.; and the coloring principle is known as curcumin.

Turn Buckle. (1) A form of shutter fastening having a gravitating catch. (2) An analogous device used for securing the free ends of the im-

plement chains in a gun carriage and the cover of the ammunition chest. (3) A link used for setting up and tightening the iron rods employed as stays for the smoke stack of a steamer or for similar objects.

Turnbull, Frances Hubbard Litchfield, an American author; born in New York State. In 1890 she was one of the founders of the Woman's Literary Club of Baltimore, of which she was president for seven years. In the same year with her husband she established at Johns Hopkins University the Percy Turnbull Memorial Lectureship of Poetry in memory of a son. Her publications include "The Catholic Man"; "Sidney Lanier: a Study in Douglas Sladen's Younger American Poets," etc.

Turnbull, Laurence, an American physician; born in Shotts, Scotland, Sept. 10, 1821; was graduated at the Philadelphia College of Pharmacy in 1842 and then became a manufacturer of chemicals. He discovered how to produce citrate of iron and biborate of sodium which would bleach colored ointments and oils. He was graduated at the Jefferson Medical College. When the Civil War began he became a volunteer surgeon on the Potomac flotilla. Later he became a specialist in diseases of the ear and was appointed aural surgeon of the Jefferson College Hospital. Died in 1900.

Turnbull, Robert, an American clergyman; born in Scotland, Sept. 10, 1809; came to the United States in 1833; was editor of the "Christian Review" for two years. He died in Hartford, Conn., where he was for many years a pastor, Nov. 20, 1877.

Turndun, a small, fish-shaped piece of thin, flat wood, tied to a thong, and whirled in the air to produce a loud roaring noise, whence it is sometimes called a bull roarer. This instrument is used by the natives of Australia to call together the men, and to frighten away the women from the religious mysteries. The turndun is employed for similar purposes in New Mexico, South Africa, and New Zealand.

Turner, Charles Willard, an American lawyer; born in Boston, Mass., Feb. 23, 1844; was graduated at Amherst College in 1865; admitted to the bar in 1867; practised in 1867–1892; then became Professor of Law at the University of Tennessee, and later acting Professor of Constitutional History.

Turner, Joseph Mallord William, a famous English landscape painter; born in London in 1775; died in 1851. Among his numerous works, many of them now in the National Gallery, London, are the "Garden of the Hesperides," "The Shipwreck," "Sun Rising in Mist," "Crossing the Brook," and "Morning of the Chase."

Turner, Thomas, an American naval officer; born in Washington, D. C., Dec. 23, 1808; joined the navy in April, 1825; was promoted lieutenant in 1835. He served on the frigate "Columbia," the flagship of the East Indian squadron in 1838–1841; was commander of the storeship "Fredonia" of the Gulf squadron in 1847. After the outbreak of the Civil War he commanded the "New Ironsides" in the South Atlantic squadron, and distinguished himself in 1863 in assaults on the forts of Charleston, S. C.; was promoted commodore in 1862, and rear-admiral in 1868, and was retired in April, 1870. He died in Glen Mills, Pa., March 24, 1883.

Turning, the art of shaping wood, metal, ivory, or other hard substances into forms having a curved (generally circular or oval) transverse section; and also of engraving figures composed of curved lines on a smooth surface, by means of a machine called a turning lathe.

Turnip, a native vegetable of Europe and the temperate parts of Asia, growing in borders of fields and waste places. It has been long cultivated and is to be found in every garden of the temperate and cold parts of the world as a culinary esculent; it is also extensively grown in fields for feeding cattle and sheep. It was cultivated in India long before it could have been introduced by Europeans, and is common there in gardens and about villages. The cultivated varieties are very numerous. Though the turnip is of great value for feeding stock, it is not very nutritious, no less than 90 to 96 parts of its weight actually consisting of water.

Turnip Flea, or **Turnip Jack,** owes its popular name to its leaping or skipping powers, is really a very small beetle. It commits great ravages in turnip fields by devouring the seed leaves as soon as they appear above the ground.

Turnip Fly, a popular name for two insects which are quite distinct, and belong to different orders, but are both destructive to turnips. (1) Athalia centifolia, a hymenopterous insect, the larva of which is known by the popular name of "nigger" on account of its black color; (2) Anthomyia radicum, a two-winged fly of the family Muscidæ. The larvæ live on the roots of the turnip, often doing great damage.

Turnpike, a gate that may be set across a road, and watched by a person appointed for the purpose, in order to stop carriages, carts, wagons, etc., and sometimes travelers, till toll is paid, for the cost and repair of the road. Such roads are called turnpike roads, or simply turnpikes, and formerly were common in the American Atlantic States, but tolls on roads have now been almost entirely abolished.

Turnspit, a name given to a variety of terrier dogs, from their being trained to turn the spits or roasting jacks in mansions. The breed is now practically extinct.

Turnstile, a post surmounted with four horizontal arms, which revolve as a person pushes by them. Turnstiles are usually placed on roads, bridges, or the like, either to prevent the passage of beasts, vehicles, or the like, while admitting the passage of persons, or to bar a passage temporarily till toll is paid; they are also frequently placed at the entrance to public buildings, or places of amusement, where entrance money is to be collected, or where it is desired to ascertain the number of persons admitted.

Turnstone, a small genus of birds of the plover family, intermediate between the true plovers and sandpipers. In winter the turnstone is found on the seashore all over the world, being probably the most cosmopolitan of all birds. It derives its name from its habit of turning over stones with its bill in search of its food, which consists of small crustaceans and mollusks. The common turnstone is nine inches in length, and is handsomely marked with black, white, and chestnut; the last-named color is reduced in autumn, when the plumage becomes duller; the legs and feet are orange.

THE TURNSTONE.

Turn Table, in railway engineering, a platform which rotates in a horizontal plane, and is used for shifting rolling-stock from one line of rails to another.

Turpentine Oil, the volatile oil distilled from crude turpentine, and existing in the wood, bark, leaves, and other parts of coniferous trees. These oils, according to the source from which they are obtained, exhibit considerable and marked diversities in their physical as well as in their optical properties. The several varieties when rectified are colorless, mobile liquids, having a peculiar aromatic but disagreeable odor. They are insoluble in water, slightly soluble in aqueous alcohol, miscible in all proportions with absolute alcohol, ether, and carbon disulphide. They dissolve iodine, sulphur, phosphorus, also fixed oils and resins. Turpentine oil is of great importance in the arts, and is specially employed for giving consistency to oil paints and varnishes, conferring on them drying properties.

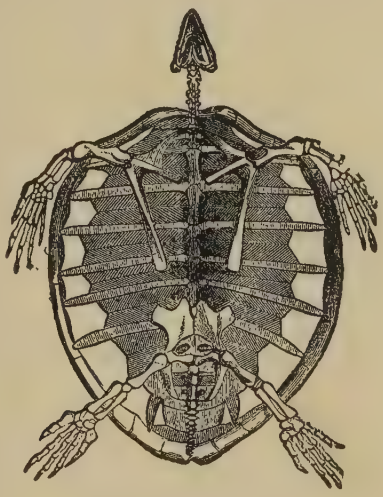
Turret, in architecture, a small tower attached to and forming part of another tower, or placed at the angles of a church or public building, especially in the style of Tudor architecture. Turrets are of two kinds — such as rise immediately from the

ground, as staircase turrets, and such as are formed on the upper part of a building by being carried up higher than the rest, as bartizan turrets. In railways, the elevated central portion of a passenger car, whose top forms an upper story of the roof, and whose sides are glazed for light and pierced for ventilation.

Turret Ship, an ironclad ship of war, whose armament is mounted in one, or more than one, low circular tower or turret placed on the deck, and revolved by steam power. This arrangement affords a wide horizontal fire, and capability of firing the same guns on both sides of the ship—a great advantage over broadside guns, which can only be trained through small arcs. The maximum of offensive power and minimum of armored area are combined in a turret ship. The sides of the ship are made much lower than in broadside iron-clads, and this reduction of surface enables the remaining portions to be very heavily armored, and guns of the weightiest nature to be carried. Captain Ericsson designed in 1855 the "monitor type" of vessel; and about the same time Capt. Cowper Coles of the British navy contrived a turret system differing from Ericsson's in some important particulars. The United States adopted Ericsson's plan, while Cole's system was put in practice in the British navy. The "Monitor," designed by the former inventor, was launched early in 1862. Her deck was only 18 inches above the waterline, and on a metal ring in the center of the deck a turret (20 feet in diameter and 9 feet high) was placed, which had two ports for 11-inch guns, the whole rotating on a central spindle by steam. She proved a most formidable ship, and her name is now applied to all ironclads constructed on the same principle of low freeboard with gun turrets. Her defects were remedied in other monitors subsequently built. The "Miantonomoh" and "Monadnock," of the United States navy, have made successful voyages in the Atlantic and Pacific.

The chief disadvantages of these monitors, arising from the turrets being raised so little above the water, are that the guns cannot be used in heavy weather, for the ports must then be closed to keep out water, and that the revolution of the turrets is in danger of being stopped by a plunging fire from broadside guns directed to the junction of the turrets with the deck.

A system of superposed turrets was introduced in the United States, in the battleships "Kearsarge" and "Kentucky," but after thorough experiments was condemned as unsatisfactory. In England and Europe the turret is used largely in land fortifications; but in the United States it is displaced by the disappearing gun.



SKELETON OF TURTLE.

Turtle, in zoölogy, the popular name for any species of the Cheloniidæ. They may be distinguished by their long, compressed, fin-shaped, non-retractile feet, with the toes inclosed in a common skin, from which only one or two claws project. The carapace is broad and much depressed, so that when these animals are on shore, and are turned over on their backs, they cannot regain the natural position. Turtles are marine animals; their pinnate feet and light shell render them excellent swimmers. They sometimes live at a great distance from land, to which they periodically return to de-

posit their soft-shelled eggs (from 100 to 250 in number) in the sand. They are found in all the inter-tropical seas, and sometimes travel into the temperate zones. The flesh and eggs of all the species are edible, though the indian turtles are less valuable in this respect than those of the Atlantic. The most highly valued of the family is the green turtle (Chelonia viridis), from which turtle soup is made. It attains a large size, sometimes from six to seven feet long, with a weight of from 700 to 800 pounds. The popular name has no reference to the color of the carapace, which is dark olive, passing into dingy white, but the green fat so highly prized by epicures. The edible turtle of the East Indies (C. virgata) is also highly prized.

Turtle Dove, in ornithology, Turtur communis, widely distributed in the warmer parts of Europe. It is a beautiful bird, of somewhat slender form, a summer visitant to the cooler latitudes, arriving in May and departing in September. They feed on grain and vegetables, often frequenting fields of beans and peas. They make a slight, flat nest of a few twigs, in which two glossy, creamy-white eggs are deposited about the middle of May, and the parent birds take turns at incubation, sometimes rearing two broods in a season. The note is a soft, mournful "coo," often uttered when the bird is on the ground. From its habit of pairing for life, and its fidelity to its mate, the turtle dove has long been a symbol of conjugal affection.

Tuscarora, a tribe of North American Indians, who at an early day lived on the Neuse river in North Carolina. They had much trouble with the colonists and were nearly destroyed as a tribe. The remnant united with the Iroquois and settled in the Oneida territory in New York. They number about 380, and live on the Indian reservation in New York State.

Tuskegee Institute, a coeducational non-sectarian institution in Tuskegee, Ala., for colored students; founded in 1881.

Tussaud, Madame, the foundress of the well-known exhibition of wax-work in London; born (Marie Grosholtz) in Berne, Switzerland, in 1760; learned the art of modelling in wax in Paris. For a time she was engaged in giving lessons in modelling to Elizabeth, sister of Louis XVI., and in this way became acquainted with the leading personages at court. Imprisoned for three months during the Revolution, in 1802 she established herself in London. The collection of over 300 portrait figures (that of Voltaire and others still on view modelled by Madame Tussaud herself from life), with the "Chamber of Horrors," devoted to figures of murderers, instruments of torture, the guillotine of the Revolution, etc., is one of the sights of London. She died in London, April 16, 1850.

Tusser, Thomas, an English musician, teacher, and poet; best known as the author of "Five Hundred Pointes of Good Husbandry"; born in Rivenhall, Essex, England, about 1515. From his rhyming autobiography it would appear that he served as a chorister first at Wallingford Chapel, and afterward at St. Paul's; had the honor of being flogged if not instructed by Nicholas Udall at Eton; was attached for a number of years to the court, probably in the capacity of a musician; and at a later date kept a farm for some time in Suffolk. He died in London about 1580.

Tussock Grass, a large grass, same genus with the cock's-foot grass of the United States; native of the Falkland Islands, Fuegia, and South Patagonia. It grows in great tufts or tussocks sometimes five or six feet in height, the long tapering leaves hanging over in graceful curves. The plant is a useful food for cattle.

Tussock Moth, a grayish-white moth about an inch long, the caterpillars of which do great mischief in hop grounds, and are known as hop dogs. The caterpillar is delicate green in color, with brush-like tufts of yellow hairs on several of the segments. It feeds on leaves throughout the summer, becomes a hairy chrysalis about September, and emerges as a moth in the following spring.

Tutor, in many universities, the name given to scholars attached to the various colleges, by whom, assisted by private tutors, the education of the students is chiefly conducted. They are selected from the college. Also in

Scotch law, the guardian of a boy or girl in pupilarity.

Tuttle, Mary McArthur Thompson, an American author; born Nov. 5, 1849; was graduated at Hillsboro College in 1868, and later at the School of Design, McMickin University. In 1874–1875 she studied literature, art, and foreign languages abroad. She became a painter of landscapes and portraits, and in 1895 began lecturing on "Color" before colleges, schools and literary societies.

TUSSOCK GRASS.

Tutuila, an island of the Samoan group, belonging to the United States under the treaty of Dec. 2, 1899, between the United States, Great Britain, and Germany. For several years the United States was anxious to acquire possession of the harbor of Pago Pago, on this island, for a naval and coaling station. In 1872 the local authorities ceded the harbor for this purpose, and in 1878 a treaty was signed in Washington by which the United States was given the right to establish at that harbor a station for coaling, naval supplies, freedom of trade, commercial treatment as a favored nation, and extra-territorial consular jurisdiction. This harbor was occupied by the United States in 1898. Tutuila, the island, has a population of 3,750 and an area of 54 square miles.

Tweed, William Marcy, an American politician; born in New York city, April 3, 1823; began life as a chairmaker; became an alderman; was in Congress in 1853–1855; was chairman of the board of supervisors of New York city in 1856, and school commissioner in 1856–1857. He was twice sent to the State Senate, and in 1870 was appointed commissioner of public works for the city. He had previously been chairman of the general committee of Tammany Hall and grand sachem. As head of the "Tweed Ring," composed of influential and unscrupulous politicians, he succeeded in obtaining control of the funds of the city government and distributed almost unlimited patronage to his friends. He was brought to trial in 1873; convicted on no less than 12 charges of fraud; and was sent to the penitentiary for 12 years. A reversal of his sentence was obtained in 1875, but he was again imprisoned for lack of bail on a series of civil suits. He broke jail and escaped to Spain, but was captured, sent back to New York on a warship, and recommitted to Ludlow street jail, where he died, April 12, 1878.

Tweed, a cloth, so called from the name of the river which falls into the sea at Berwick, where it is largely manufactured.

Twelve Tables, the name given to the earliest code of Roman law, civil, criminal, and religious, made by the decemvirs in 451–449 B. C. These, originally comprised in 10 tables, to which next year two others were added, were supposed to form the basis of all Roman law, and in Cicero's time were still committed to memory by boys at school. The occasion for them arose in the constant complaints made by plebeians of oppression by patricians; and the principal aim of the tables was to define rights, fix penalties, and prevent oppression under legal forms. Many older laws were left intact by them, and reappear in Justinian's code. To the original tables commentaries were from time to time added.

Twilight, in astronomy, the faint diffused light which appears a little before sunrise, and again for some time after sunset, the amount and duration of the light varying materially in different latitudes and at different seasons. Popularly, the term is only applied to the evening twilight, the morning twilight being called dawn. Twilight is produced by the diffused reflection of light from and among the atmosphere after the direct rays of the sun have ceased to reach the earth. When the sun descends below the horizon, its rays pass through the atmospheric strata, and some of them are reflected toward the earth and illuminate its surface. At first the light, falling on the lowest and densest strata, is reflected in great abundance, but as the sun descends to a greater distance below the horizon, the rays fall on higher, and therefore rarer, atmospheric strata. Consequently fewer rays undergo reflection, and as the number of reflected rays diminishes as the sun descends, the strength of the twilight diminishes in the same proportion, till at last the solar rays fall on strata so rare as to be incapable of reflecting light, and the twilight accordingly disappears. In the morning the change from darkness to light takes place in a similar manner, but in inverted order.

Twill, a diagonal appearance given to a fabric by causing the weft threads to pass over one warp-thread, and then under two, and so on; instead of taking the warp threads in regular succession, one down and one up. The next weft thread takes a set oblique to the former, throwing up one of the two deposed by the preceding. The fabrics thus woven are very numerous.

Twin Screw, a propeller of a steam vessel, composed of two separate and parallel screws which revolve in opposite directions, thus giving increased power over a single screw propeller. The twin-screw system is now employed in the principal warships of the world, and triple-screws are used on the commerce destroyers "Columbia" and "Minneapolis," of the United States navy.

Two-toed Ant Eater, one of the two species of the genus Cyclothurus. It is about the size of a common squirrel, arboreal, and lives on insects. From the forests of Costa Rica, Honduras, and Brazil.

Tye, in mining, an inclined trough for separating ore by means of a flowing stream of water. The slimes are allowed to flow in a thin wide stream upon the upper part of the trough, then disturbed by a broom, and collected, according to relative weight and quality, at different parts of the length of the trough. The sorts are known as heads, middles, and tails; the first going to pile, the second is retyed, the third is refuse. Nautically a rope by which a yard is hoisted.

Tyler, Harry Walter, an American educator; born in Ipswich, Mass., April 16, 1863; was graduated at the Massachusetts Institute of Technology in 1884; was assistant instructor and full instructor of mathematics there in 1884–1887. He then studied abroad. Returning to the United States he was made full Professor of Mathematics at the Institute of Technology in 1893.

Tyler, James Gale, an American artist; born in Oswego, N. Y., Feb. 15, 1855; received a public school education; then studied marine painting. His paintings include "Abandoning the Jeannette"; "The Constitution," etc.

Tyler, John, an American statesman, 10th President of the United States; born in Charles City, Va., March 29, 1790. His father was an officer in the army during the Revolution, and a judge of the Federal Court of Admiralty. Tyler was graduated at William and Mary College, in 1807, when but 17, and was admitted to the bar in 1809. At the age of 21 he was elected to the Virginia legislature; and in 1816, at the age of 26, was elected to Congress. In 1825 he was elected governor of Virginia, and in 1827 Senator of the United States. He sustained the States' Rights policy in Congress, voted against the so-called Force Bill empowering President Jackson to enforce the revenue laws in South Carolina, and for the resolutions censuring Jackson for removing the government funds to State banks. When, in 1836, the Virginia legislature instructed him to vote for the expunging of this censure, he resigned his seat in the Senate. In 1839 he

was elected to the Virginia legislature, and in 1840 was elected Vice-President on the Whig ticket with William H. Harrison. On April 4, just one month after entering on the duties of his office, President Harrison died, and Tyler became President by succession. He at once came into conflict with Congress by vetoing financial bills that he believed to be in violation of the Constitution. His Cabinet, except Daniel Webster, resigned, and their places were filled by States' Rights Whigs. The most important acts of his administration were a treaty with China and the annexation of Texas (1845). At the expiration of his term he retired to private life, till 1861, when he was made president of a peace convention. Failing in his efforts to effect a compromise, he joined the Confederacy, and served in the Confederate Congress till his death in Richmond, Va., Jan. 18, 1862.

Tyler, Lyon Gardiner, an American educator; born in Charles City co., Va., in August, 1853; son of John Tyler, President of the United States; was graduated at the University of Virginia in 1875; practiced law in Richmond, Va., in 1882–1888; and in the latter year accepted the presidency of William and Mary College.

Tyler, Moses Coit, an American historian; born in Griswold, Conn., Aug. 2, 1835; was graduated at Yale University in 1857; later studied theology; ordained in the Congregational Church in 1859; pastor of the First Congregational Church, Poughkeepsie, N. Y., in 1860–1862; Professor of English Literature in Michigan University in 1867–1872 and in 1874–1881; literary editor of the "Christian Union" in 1872–1874. He became Professor of American History in Cornell University in 1881; was ordained deacon in the Protestant Episcopal Church in 1881, and priest two years later. He was author of "History of American Literature During the Colonial Period"; "Manual of English Literature," etc. He died in Ithaca, N. Y., Dec. 28, 1900.

Tyler, Robert Ogden, an American military officer; born in Greene co., N. Y., Dec. 22, 1831; was graduated at the United States Military Academy in 1853; served on frontier duty till the beginning of the Civil War and took part in the Spokane expedition in 1858. Just prior to the outbreak of the Civil War he was a member of an expedition to relieve Fort Sumter, the bombardment of which he witnessed. He was made assistant quartermaster with the rank of captain in May, 1861. In August of the same year he reorganized the 4th Connecticut regiment, of which he was commissioned colonel; was promoted Brigadier-General of volunteers in November, 1862; brevetted major, U. S. A.; and was placed in command of the artillery reserve in the Army of the Potomac in November, 1863. He led a brigade at Cold Harbor and there received a wound which maimed him for life and permanently broke his health. At the close of the war he was brevetted Major-General in both the volunteer and regular armies. He died in Boston, Mass., Dec. 1, 1874.

Tyler, Royall, an American author; born in Boston, Mass., July 18, 1757. In 1794 he was judge of the Supreme Court of Vermont, and in 1800 its Chief Justice. He wrote the first American play to be acted by regular comedians: "The Contrast," produced in 1786 at New York. He died in Brattleboro, Vt., Aug. 16, 1826.

Tyler Insurrection, a popular revolt in England during the minority of Richard II., headed by Wat Tyler, a soldier who had served in the French wars, and Jack Straw, an Essex peasant. Its immediate occasion was the imposition in 1381 of a poll tax of three groats on every adult, to defray the cost of the disastrous French war; and the first blow struck was the death of a tax gatherer, who had offered an insult to the daughter of a blacksmith in Essex. From Essex the revolt spread over Norfolk, Suffolk, Sussex, and Surrey, but its strength lay in the 100,000 men of Kent, who marched on London, putting to death every lawyer whom they found. The nobles fled, while the artisans of London flung open the gates of the city. At Mile End, without the city, the young king met the great mass of the peasants, whom he overawed and induced them to disperse by promising them charters of freedom and amnesty. However, 30,000 remained with Wat Tyler to watch over the fulfilment of the royal pledge, and this body Richard met by chance next

morning at Smithfield. In the conference which ensued, William Walworth, the Mayor of London, exasperated at the insolence of Tyler, stabbed him with his dagger, and in the scene of confusion which ensued, the king, with great presence of mind, addressed the populace, led them to Islington, and commanded them to disperse. The death of Tyler paralyzed the people, while it revived the courage of the nobility. The king, in violation of his pledge, stamped out the revolt with ruthless cruelty.

Tympanites, derived from the Latin word "tympanum," for drum; the distention of the abdomen arising from an excessive accumulation of gas in its cavity. The gas collects, as a rule, in the interior of the alimentary canal, especially the intestines, but in exceptional cases it occupies the peritoneal cavity. It is a very painful disorder, and may be relieved by applying hot turpentine stupes to the abdomen, and by giving internally aromatic spirits of ammonia, etc., under competent medical advice.

Tympanum, in anatomy, the drum, middle ear, or middle chamber of the ear; a narrow, irregular cavity in the substance of the temporal bone, placed between the inner end of the external auditory canal and the labyrinth.

Tyndale, Hector, an American military officer; born in Philadelphia, Pa., March 24, 1821. He was not opposed to slavery and knew little of the raid of John Brown, but he was requested to escort Mrs. Brown on her last visit to her husband. While in the discharge of this duty he suffered many insults and threats, and on the morning of the execution an unseen assassin fired a shot at him. Prior to the execution a number of papers in the South had threatened that a "nigger's" remains would be substituted for those of Brown and given to his friends. Therefore, when the authorities offered the coffin to Tyndale he positively declined to accept it till it was opened and the body identified. When Fort Sumter was fired on he immediately returned from Europe, and became major of the 28th Pennsylvania regiment; was promoted lieutenant-colonel in April, 1862. He particularly distinguished himself during the battle of Antietam. Though wounded in the hip early in the day he remained on the field till carried to the rear in the afternoon with a musket ball wound in the head. He was promoted Brigadier-General of volunteers in November, 1862; was brevetted Major-General of volunteers in 1865. He was Republican nominee for mayor of Philadelphia in 1868, and was defeated by only 68 votes. He died in Philadelphia, March 19, 1880.

Tyndale, William, memorable in the history of the English Bible; born in Gloucestershire, England, about 1484; was educated at Oxford, then at Cambridge. He left Cambridge most probably about the close of 1521 to become chaplain and tutor in the household of Sir John Walsh of Little Sodbury in Gloucestershire. In 1523 he went up to London, where he was entertained in the house of Humphry Monmouth. He was already a competent Greek scholar, and in his unsuccessful application to Tunstall, Bishop of London, he carried with him a translation of part of Isocrates as a recommendation. In the spring of 1524 he went to Hamburg, probably made his way thence to Wittenberg, next in the autumn of 1525 to Cologne, and there, with the help of a Franciscan friar named William Roye, and another, began with Quentel in 1525 the printing of his English New Testament in an impression of 3,000 copies in quarto size. This had not proceeded beyond the Gospels of Matthew and Mark when the officious intrigues of Cochlæus forced Tyndale to flee to Worms, where, instead of completing Quentel's unfinished work, Peter Schoeffer printed for him another impression of 3,000 copies in a small octavo size, without prefaces to the books or annotations in the margin. The quarto was completed soon after, most probably also by Schoeffer, with general introduction, prologues, inner marginal references, and outer marginal glosses, these last largely taken from Luther's version of 1522. The translation itself owed much to Luther, much also to the 3d ed. (1522) of the Greek Testament of Erasmus with its Latin translation. Tunstall and Warham denounced the book, hundreds of copies were bought up and burned by their authority, but in both forms it made its way by the summer of 1526 to the hearts of Englishmen, and

the strong simplicity and homely vigor of its style established a standard of Biblical translation into English, and bequeathed its phrases imperishable to all posterity. By 1530 there were six editions, of which three were surreptitiously printed at Antwerp. Meanwhile Tyndale continued to toil indefatigably at the labor of his life. In 1530 he published at Malborow (Marburg) by Hans Luft his version of the "Pentateuch" where the marginal glosses, almost all original, contain many violent attacks on the Pope and the bishops, full of rich satire, irony, and even humor. We find that here, still more than in his New Testament, he leans heavily on Luther. Later, in 1531, appeared his version of "Jonah," with a prologue. An unauthorized revision of Tyndale's New Testament was made at Antwerp by George Joye in August, 1534, and in November of the same year Tyndale himself issued there at the press of Marten Emperor a revised version with short marginal notes and prologues, together with a translation of the "Epistles taken out of the Old Testament which are read in the church after the Use of Salisbury on certain days of the year." One copy of this work, probably that preserved in the British Museum, was struck off on vellum and beautifully illuminated for presentation to Queen Anne Boleyn. Once again before the end Tyndale revised his Testament (1535), this time without the marginal notes, but with the innovation of headings to the Gospels and Acts, but not the Epistles. But now it wanted only the crown of martyrdom to consecrate the lifelong devotion of Tyndale to his task. Already the emissaries of Henry VIII. had often tried to get hold of him, or at least to discover his hiding place. He had spent two quiet years of constant labor at Antwerp, part of the time in the house of Thomas Poyntz, when he was seized through the treachery of one Henry Philips, May 24, 1535. For 16 months he lay in the castle of Vilvorde, and it appears that Cromwell made some ineffectual efforts to save him. Tyndale's protracted trial was apparently not begun till 1536; he was found guilty of heresy, and on Friday, Oct. 6, of that year, he was first strangled, then burned at the stake.

Tyndall, John, an English physicist; born in Leighlin Bridge, near Carlow, Ireland, Aug. 21, 1820. He studied in Germany; in 1850 published in the "Philosophical Magazine" "Discoveries in Magnetism." He was the first to climb the Weisshorn, and subsequently reached the summit of the Matterhorn. In 1872 he lectured in the United States; the profits he devoted as a fund "in aid of students who devote themselves to original research." He died in Haslemere, Surrey, England, Dec. 4, 1893.

Tyner, James Noble, an American lawyer; born in Brookville, Ind., Jan. 17, 1826; received an academic education; was a member of Congress in 1869–1875; 2d and 1st assistant postmaster-general, and Postmaster-General in 1875–1882; represented the United States at the International Postal Congress in Paris in 1878. He was appointed assistant attorney-general of the United States for the Post-office Department in 1889 and 1897. Died at Washington, D. C., Dec., 1904.

Tyng, Stephen Higginson, an American clergyman, long rector of St. George's Church, New York city; born in Newburyport, Mass., March 1, 1800; and was graduated at Harvard University in 1817. For several years he edited the "Episcopal Recorder," the "Protestant Churchman," etc. He died in Irvington, N. Y., Sept. 4, 1885.

Type, a rectangular solid of metal, wood, or other hard material having a raised letter, figure, punctuation mark, or other character on the upper end, which, when inked, is used to make impressions on paper and other smooth surfaces; the term is also used collectively. Types must be all of a uniform height, and perfectly true in their angles, otherwise they could not be locked firmly together to be printed from. Notches are made on one side of the type to assist the compositor in distinguishing the bottom from the top; the groove is a channel made in the bottom of the type to make it stand steadily. From the character of the letters types are known as capitals, small or lower-case letters, italics, script, etc. The different sizes are now, however, named by the "point" system, as 5-point, 5½-point, 6-point, etc. Types are made by casting (which is now done by machin-

ery), the letter being first cut on the end of a steel punch, and the punch then driven into a piece of copper, which forms the matrix or bottom of the mold intended to produce the letter. A fount or font is a complete assortment of any given kind of type, the number of each letter being in proportion to the frequence of its occurrence in printed matter. A complete font of type, including Roman and italic, with capitals, figures, points, and signs, consists of 226 different characters.

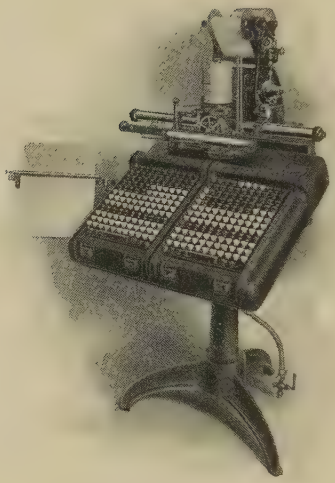
Type Metal, the alloy of lead and antimony used in casting a printer's types, the usual proportions being one part of antimony to three of lead; but a superior and harder kind of type is sometimes made by alloying two parts of lead with one of antimony and one of tin. Both these alloys take a sharp impression from the mold or matrix, owing to their expansion on solidification, and they are hard enough to stand the work of the press, without being brittle or liable to fracture.

Type-setting Machines, mechanical devices for setting type. The first record of type-setting machinery was made in the English Patent Office in 1794. In 1882 W. Church, of Connecticut, took out a patent for a machine having a keyboard, the manipulation of which guided freshly-cast type to a central point. Alden's machine was the first to come into practical use. It was used on magazine work and was able to set about 3,000 ems an hour, but required several men to operate it. Following these machines came the Burr, afterward called the Empire, and the Thorne, both of which are still extensively used. The latter combines the distribution and composition in a single mechanism. Its distinctive feature is an upright cylinder containing grooves in its periphery, each groove so formed as to admit only the character bearing corresponding nicks. It is manipulated by a keyboard, the types falling perpendicularly from the place where they are distributed into the line forming from copy. At the side of the machine sits an operator who justifies the matter into lines as fast as may be necessary. A speed of from 4,000 to 5,000 ems an hour is common. The disadvantages attributed to it are breaking type and clogging. The Mergenthaler linotype is incorrectly spoken of as a type-setting machine. It does not set type but matrices, from which a bar called a linotype is cast, this being the equivalent of a line of type. It is worked by a keyboard and has two advantages over other machines; no time is lost upon justification, as the spaces are cast at the same time as the letters, and there is no necessity of distribution. When the matter is done with it is melted and used over again. It is in general use in large newspaper offices. Since the introduction of the linotype several similar machines have appeared.

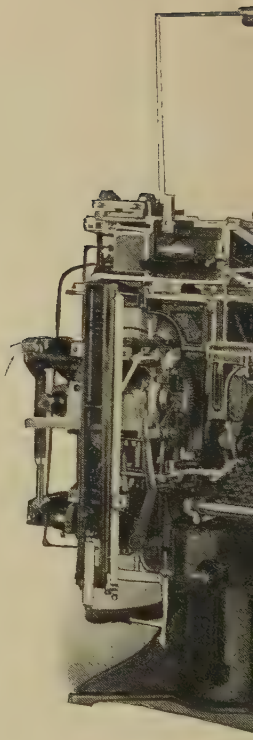
Typewriter, a machine fitted with types which print by a pressure on the keys with the fingers. The principle, briefly stated, is that of a series

TYPEWRITER.

of rods pivoted to keyed rods, similar to the action of a pianoforte, the ends of the rods carrying the characters of the alphabet and all striking on a common center. There is a self-inking arrangement, and several minor improvements have been added in recent years, bringing the invention to a high state of perfection. It is on record that one Henry Mill obtained a patent in England, Jan. 7, 1714, for such a machine. The record does not describe it, except that it was a device to write in printed characters one letter at a time, one after another. The writing machine called the typewriter was invented at Milwaukee, Wis., in 1867, by C. Latham Sholes, Samuel W. Soule, and Carlos



MONOTYPE KEYBOARD

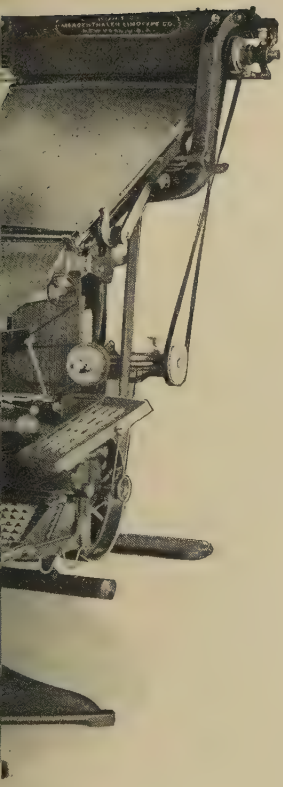


MERGENT

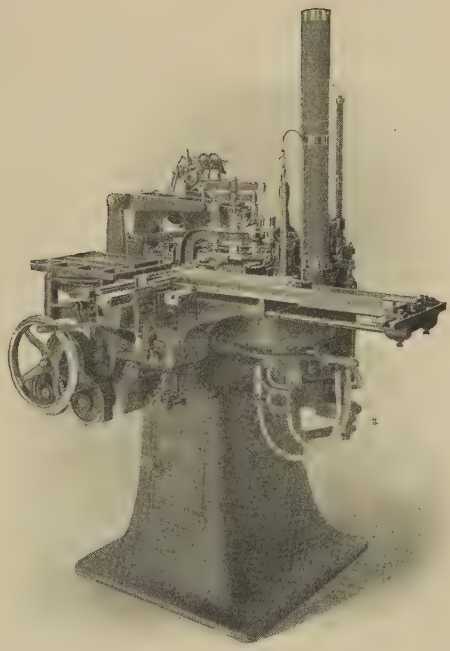
STANDARD LINOTYPE KEYBOARD

ONE

TYPE SET

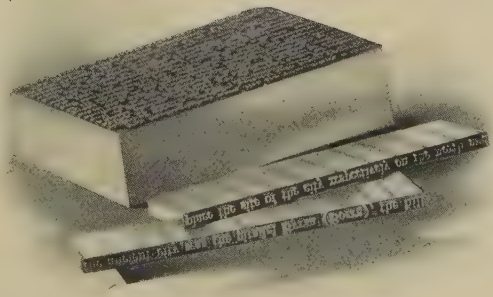


NOTYPE



MONOTYPE CASTING MACHINE

LINE MATRICES



INDIVIDUAL SLUGS OR LINOTYPES

MACHINES

Glidden. One device after another was conceived and developed till 25 or 30 experimental instruments were made, each one a little better than the one preceding. In this way the invention grew till at the present time the device is thought complete.

The use of the typewriter has completely revolutionized the copyist's trade, and the instrument is one of the most valuable labor-saving devices of the day. Most standard machines now possess the visible writing feature, and have attachments for tabulating figures and the use of more than one colored ribbon; and there are special types of machine for writing in ledgers and other account books, for making neo-style stencils, and for other out-of-ordinary purposes. In 1910 the Census Bureau used a combination of typewriter and adding machine in tabulating the returns from the perforated cards. See CENSUS.

Typhoid Bacilli. The discovery of a method of identifying the bacillus, or living germ, of typhoid fever is due to Dr. Hiss, one of the bacteriologists of the New York Board of Health in 1897. Previously there were only two ways of determining a case of typhoid fever. The first method was by the physical symptoms of the patient, a clinic study of his conditions. This was always unsatisfactory because till the disease is 8 or 10 days old, these symptoms are not to be depended on. Another test, devised by Widal, a scientist of Vienna, and said to be actually discovered by Robert Pfeiffer, of Berlin, Dr. Koch's assistant, is an examination of the blood. A drop of blood or serum is taken from the earlobe or the finger tip, and mixed with pure typhoid culture. A bit of the mixture is then put under a microscopic slide. If there is typhoid in the blood, or if the patient has had typhoid in his system at any time within five years, the bacilli introduced from the typhoid culture, as can be seen plainly through the lens, gather into groups. If there is no typhoid at all, the bacilli move about violently. Yet this test, though good to confirm, is not altogether conclusive and never absolutely proves the actual presence of typhoid. What Dr. Hiss has done has been to devise a culture medium in which typhoid germs will multiply and the colon bacillus will not. Eighteen hours is sufficient time for the bacilli to grow, and a statement of results will reach the doctor inside of 36 hours after he has sent a specimen to a laboratory.

Typhoid Fever, in pathology, a kind of continued fever which is known by many names. It was called "typhoid" and "abdominal typhus" from its supposed resemblance to typhus or jail fever. It is often known as "low fever" and "slow fever," from its duration; and as "autumnal" or "fall" fever, from the time of the year at which it is most prevalent. The term "enteric fever" was applied to it from the fact that the intestines are always attacked in this disorder; but "gastric fever" is a misnomer, for there is never any organic disease of the stomach. Typhoid fever results from the introduction of a specific poison into the system, and is said to be due to the development of a specific bacillus. It is not contagious, and the poison appears to be communicable only from the discharges.

Typhon, in Greek mythology, a famous giant who was reputed to be the son of Tartarus and Terra, and fabled to have 100 heads shaped like those of a serpent, and with devouring flames darting from its many mouths and eyes. Typhon, as soon as born, to avenge the death of his brother giants, made war on heaven, compelling the gods to disguise themselves and fly for safety; Jupiter, however, regaining courage, threw off the resemblance of a ram which he had assumed, and, hurling his thunderbolts at the audacious invader, flung him to earth wounded and writhing, when, to prevent his recovery, he cast Mount Etna at his head, and buried the rest of his body beneath the island. Through this vast mountain, however, the imprisoned giant still belches forth his fire and smoke, and howls his discordant thunder. In the Egyptian mythology Typhon is the name given to the Evil Genius.

Typhoon ("hot wind"), the name given to the violent hurricanes which rage on the coasts of Japan and China and the neighboring archipelago. They occur from May to November, but especially in July, August and September, traveling generally from E. N. E. to W. S. W. along the coast of China.

In their broad characteristics they resemble hurricanes in other parts of the world, and their tremendous fury is no doubt due very much to the surface conditions under which they are produced.

Typhus, in pathology, typhus fever; a contagious fever, which occurs mainly in temperate and cold climates, and often rages as an epidemic. It is also known as "spotted," "epidemic," or "contagious" fever, and was formerly called "camp" or "jail" fever from its prevalence in camps and prisons. It is most prevalent among females and young people, but the highest rate of mortality from the disease occurs among adult males. The contagion is communicated through the air, and probably proceeds from the breath, which has a peculiar foul smell.

Typographical Union, a society of compositors banded together for mutual protection, for the regulation of wages, fixing the number of apprentices allowed to each establishment, the length of time each apprentice must serve in order to become a master workman, and for extending general aid to the members of such association. They do great good.

Typology, a discourse on types, especially those of Scripture; the doctrine of types; a department of theology which investigates Scripture types, and the principles applicable to their interpretation. It starts from the position that the leading truths of revealed religion were the same under the Patriarchal, the Jewish, and the Christian dispensations. These truths were, however, revealed to the earlier worshipers more or less obscurely, being expressed by symbols, instead of stated directly in words. Each type employed had a twofold meaning and purpose — it was a symbol of some religious truth and predictive of the antitype, Christ.

Typothetæ, the name given to a trade guild consisting of persons connected with the printing trades, both workmen and employers. The name as now used in the United States is a revival of an ancient appellation conferred on an association of printers of whom we find record as early as the latter half of the 15th century. The first use of the name in the United States was in 1863, when P. C. Baker, of New York city, proposed the name for a society of employing printers in that city. The name was adopted, but the society did not survive long. In 1883 the New York society was resuscitated, and the name readopted. From that city similar organizations spread all over the country.

Tyr, in Scandinavian mythology, the son of Odin, and the god of war and of fame, which idea is expressed in old Norse by the word tyr. According to the Edda, he was single-handed. When the Æsir-gods persuaded the wolf Fenrir to allow himself to be bound with the bandage Gleipnir, Tyr put his right hand in the wolf's mouth, as a pledge that he would be loosened; and when the gods refused to release him, the wolf bit off Tyr's hand to the wrist, which was called, in consequence, Ulflithr, or the Wolf's Joint. In the twilight battle of the gods, he meets his death at the same time with his enemy, the monster dog Garmr.

Tyrant, originally, one who obtained supreme or absolute power by usurpation, or who derived it from one who had obtained such power by usurpation, and maintained it by force, though he might exercise his power with strict moderation. A monarch, or other ruler or governor, who takes advantage of his power to oppress his subjects or fellow citizens.

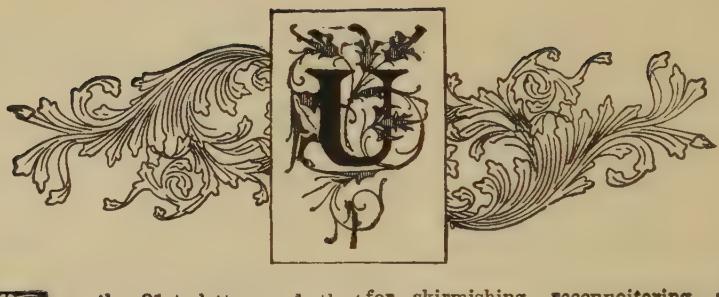
Tyrant Birds, a family of passerine birds, chiefly confined to tropical regions. Among the 350 species of which the family consists, there is great diversity of form and even of habit. Noteworthy species are the scissor tail, remarkable for its grace of form and beauty of plumage, and the common American shrike-billed kingbird or bee martin. The latter, like all the tyrant birds, is of a pugnacious temper, and is a determined enemy to sparrow hawks and other small birds of prey; but it is much disliked by farmers on account of its propensity for eating bees.

Tyre, in ancient geography, a famous city of antiquity, on the coast of Phœnicia, 24 miles to the S. of Sidon. The first city of Tyre was built on the mainland, but the second and more important city was erected on an island about a mile long, running parallel with the shore, but sep-

arated from it by a strait of the Mediterranean a mile wide. The city covered the whole island, and was of extraordinary magnificence and beauty, while its wealth made it the envy of all surrounding nations. Tyre had two capacious harbors, and the whole island was surrounded by a strong wall 150 feet in height. The Tyrians were celebrated for their splendid dyes, especially of scarlet and purple, for their skill in all mechanical arts, their metallic work, industry, and commerce. In the time of David and Solomon, the Tyrian king, Hiram, maintained friendly relations with the Israelites, and his people greatly assisted Solomon in the building of his temple. Tyre is repeatedly mentioned in the Old Testament for its strength, wealth, and beauty, and is threatened with destruction for its pride and arrogance. The prosperity of Tyre was not finally destroyed till the conquest of Syria by the Turks in 1516. The modern Tyre or Sur is an insignificant place of 5,000 inhabitants.

Tyrol, a crown-land of the Austrian empire; between Bavaria on the N., Switzerland on the W., Italy on the S., and Salsburg and Carinthia on the E.; and embracing an area of 10,302 square miles, to which is administratively added Vorarlberg, 1,005 square miles, on the W. frontier; pop. 928,769. The province is traversed from E. to W. by the three chains of the Alps; the central chain (11,000 to 12,500 feet), which is crossed by the road over the Brenner Pass (4,588 feet), the principal line of communication between Italy and Germany, separates the German from the Italian side. The people are noted for fidelity to the Roman Catholic faith and their devotion to their country, but are somewhat backward in education. The romantic mountain scenery attracts thousands of visitors. Pastoral pursuits furnish the chief occupations, though some grain is grown, and considerable attention is paid to the cultivation of the forests, of fruit, wine and silkworms. The chief town is Innsbruck, with a university (1677 with 700 students); Trent, Roveredo, Brixen, and Bozen are the next towns of consequence. The provincial chamber consists of 68 members, excluding Vorarlberg, which has its own chamber of 20 members. Tyrol, the ancient Rhætia, was conquered by the Romans under the Emperor Augustus. After the fall of the empire it was occupied by the Boiardi (Bavarians) and Longobardi. During the Middle Ages the most important rulers in Tyrol were the counts of Tyrol and the bishops of Trent and Brixen. In 1363 the counts bequeathed their possessions to the Duke of Austria, and they have formed an appanage of the House of Hapsburg ever since, except during the short period 1806–1814, a period made memorable by the patriotic resistance of Andreas Hofer and his associates to French and Bavarians.

Tyrone, Hugh O'Neil, Earl of, an Irish rebel; born in Ireland, about 1550; was the son of an illegitimate son of Conn O'Neil, the 1st Earl of Tyrone, and was himself in 1587 invested with his grandfather's title and estates. But he soon plunged into intrigues both with the Irish rebels and with Spain against the authority of Elizabeth, and in 1597 assumed the ancient title of "The O'Neil," and began the struggle openly. His success soon spread the flame of insurrection over all Ulster, Connaught, and Leinster. The queen sent over Essex with more than 20,000 men, and at Ballyduich Tyrone met him under truce, and submitted his demands to Elizabeth. Lord Mountjoy soon succeeded Essex, and quickly subdued the most of the country. But at length in 1601 a Spanish force of 5,000 men landed at Kinsale, and 2,000 more at Castlehaven. Mountjoy at once besieged Kinsale, while Tyrone advanced to its relief, but was defeated with heavy loss, and severely wounded. Mountjoy pursued him to the N. and ravaged his country. After Kinsale fell Tyrone made his submission at Mellefont and was reinstated in his earldom. But under James I. he intrigued anew with Spain, and finally in 1607 found it necessary to flee. His lands were confiscated and he himself died in Rome in 1616.



U, the 21st letter and the 5th vowel of the English alphabet. It is one of the three primitive vowels, from which the various vowel sounds in the Aryan languages have been developed. Its true primary sound was that which it still retains in most of the European languages, viz., that of oo in cool, tool, wood, etc., corresponding to the French ou, as in cour, tour, etc., the sound being sometimes short and sometimes long.

Ud-nun-ki, ancient **Adab,** a city of Babylonia, mentioned in the code of Hammurabi (q. v.), and discovered by the University of Chicago's excavating expedition in 1904. Considered the oldest city in the world; for many years it had been an object of search by Orientalists. Excavations at Bismya disclosed the remains of four temples, built one above the other, the bricks of the lowest level bearing the syllables Ud-nun-ki.

Uhl, Edwin Fuller, an American statesman; born in Rush, N. Y., Aug. 14, 1841; settled in Grand Rapids, Mich., in 1876 and practised law till he became mayor of that city in 1890. He was made assistant Secretary of State in October, 1893; and during the sickness of Secretary Gresham was Acting Secretary of State. While in this office he was entrusted with the arbitration to settle the boundary between Brazil and the Argentine Republic. He was made ambassador to Germany in February, 1896. He died in Grand Rapids, Mich., May 17, 1901.

Uhlan, or **Ulan,** one of a variety of light cavalry of Asiatic origin, introduced first into Poland by Tartar colonists. They are employed in the Russian, Austro-Hungarian, and German armies, especially in the latter, for skirmishing, reconnoitering, and scouring the country in advance of the main body of the armies.

Uitlanders, or **Outlanders,** a name given to the foreign residents of the Transvaal Colony. These comprise people from all countries, the majority, however, being British subjects, and the refusal of the Transvaal government to give them the franchise became the source of much trouble. Under treaty arrangements made in 1884, Great Britain had a measure of control over the foreign affairs of the Transvaal (then the South African Republic), but it was solemnly agreed that in its internal affairs the government of the republic should exercise full and complete independence. The discovery of gold in 1886 drew great numbers of foreigners to the Transvaal, most of them being mining adventurers. These wanted a share in political affairs, but the Dutch Boers who were at the head of the republic refused to listen to their demands. The Uitlanders were allowed, after a residence of two years, to become naturalized, but they had to wait 12 years more before being allowed to vote. After 1896 the tax on mining profits was 5 per cent.; on the yield of mining leases 2½ per cent., and there was also a heavy poll tax. The Uitlanders were denied the right of public assemblage and had to procure a permit from the police to hold a meeting. In 1895 the Jameson raid threatened for a time a disruption of peaceful relations. At Johannesburg, the largest city of the Transvaal, a mass meeting of the Uitlanders was held on Dec. 24, 1898, to agree on a petition to Queen Victoria praying for protection from the Boer police. Their object was frustrated by

the presence of a large number of armed Boers who wrecked the interior of the hall and injured many of the people assembled. Another public meeting called on Jan. 13, following, to protest against these proceedings, was also broken up by the native authorities. These events and the lack of any definite plan for settling the difficulties brought on the Boer-English war, and the extinction of independence in the Dutch South African republics. See TRANSVAAL.

Ukase, an edict or order, legislative or administrative, of the Russian government. It has the force of law till annulled by subsequent decisions or orders. A collection of the ukases issued at various times, made by order of the Emperor Nicholas in 1827, and supplemented since, year by year, constitutes the legal code of the Russian empire. An edict or order, generally, issued by some competent authority.

Ulema, the collective name (which cannot be used as a singular) of the body of professional theologians and doctors of divinity, and therefore of law, in any Mohammedan country. They form the legal and judicial class, and interpret the Koran and the law derived therefrom; they also constitute whatever there is of the nature of a hierarchy in Islam, and their power and influence have often curbed the irresponsible authority of a despot.

Ulfilas, or Wulfila, a Gothic bishop and translator of the Bible; born in one of the Gothic settlements to the N. of the Danube in A. D. 311. He was probably of pure, perhaps noble Gothic blood, the story told by Philostorgius, that his progenitors were among the prisoners brought by the Goths from Cappadocia in 258, resting on very insufficient authority. Being sent to Constantinople on an embassy — possibly as a hostage — he adopted the Christianity of the capital, which was then of the Arian type, and was appointed "Anagnostes"; and it was probably while holding this office, which in the Greek Church involves preaching as well as reading, that he executed the Gothic translation of the Scriptures. Early in the year 341, having just reached the required age, he was consecrated bishop of the Goths by Eusebius of Nicomedia at Antioch, and immediately returned to his people across the Danube. After laboring among them for seven years, he and his converts were obliged by the persecution of the heathen prince Athanaric to take refuge within the limits of the Roman empire, and for the rest of his life he continued to labor in the country of the Balkans.

Ulke, Henry, a Prussian American portrait painter; born in Frankenstein, Prussia, Jan. 29, 1821; in 1851 he came to the United States and established a studio in Washington, D. C. He became well known as an entomologist and also as a musical critic. His portraits include those of President Grant, John Sherman, James G. Blaine, Secretary Stanton, Generals Rawlins, Blair, Spinner, and other prominent men. He died in 1910.

Ultima Thule (Uppermost Thule), a name given in ancient times by the inhabitants of Southern Europe to the remote regions of the unknown North. The Greek navigator Pytheas (who probably lived in the latter part of the 4th century B. C.) made a voyage along the coast of Britain and wrote an account of what he learned about the Shetland and Orkney Islands and possibly the N. mainland calling the region Thule. The name became vague in its application, especially under the form Ultima Thule. Norway, Ireland, etc., bore the title in turn; and many strange superstitions were current regarding the region.

Ultramarine, a brilliant blue color, in very extensive use by painters, paper stainers, calico printers, and others. The substance previous to the year 1828 was obtained only from lazulite or lapis lazuli, a beautiful and costly mineral substance. The mineral being rare, and much prized for ornamental inlaying, and the color being of unapproachable brilliance and depth, it was an extremely expensive pigment. In consequence, strenuous efforts were made to obtain an equally valuable product by artificial means. In 1824 the French Societe d' Encouragement pour l' Industrie Nationale offered a premium of 6,000 francs for the manufacture of an ultramarine blue, possessing all the qualities

of that extracted from lapis lazuli, and in 1828 the prize was awarded to M. Guimet of Lyons, who after four years' investigation succeeded perfectly in producing the valuable substance by a synthetical process.

Ulugh Beg, the grandson of Timur, or Tamerlane; governed Western Turkestan as regent for his father Shah Rokh, and succeeded in 1447 to the imperial throne on his father's death. He was a successful warrior, but happened, unfortunately, to conceive suspicions of the loyalty of his eldest son, suspicions founded only on astrological indications. The offended and injured prince rebelled, defeated and captured his father, and soon after caused him to be put to death, thus fulfilling the prediction, 1449. Ulugh Beg is known to posterity as the founder of the observatory at Samarcand, as the liberal patron of astronomers, and as himself a most diligent observer. The astronomical tables which bear his name, enjoy a high reputation for accuracy. The astronomical works of Ulugh Beg were written in Arabic, afterward translated into Persian, and thence the chronological portion of them rendered into Latin by Greaves, who followed with a Latin version of the geographical part in 1652.

Ulysses, in heroic history, one of the most renowned of the Greek heroes. Ulysses was the King of Ithaca, one of the small Ionian isles, the husband of the exemplary Penelope, and father of Telemachus. Ulysses was not only a prudent warrior, but a sage counsellor, and was as much honored in the general conference as he was valued in the field for his military skill, ready expedients, and undaunted courage.

Uma, in Hindu mythology, one of the principal names of the consort of the god Siva. The myths relating to this goddess, who is worshiped in various parts of India — particularly, however, in Bengal — are met with in the great epic poems. She is often represented holding the severed head of Chanda in her hand, with the heads of his soldiers formed into a garland suspended from her neck, and their hands wreathed into a covering round her loins — the only covering she has in the image constructed for the puja.

Umber, a well-known pigment of an olive-brown color in its raw state, but much redder when burnt. It consists of an ocherous earth containing manganese, is durable, has a good body, and is useful in oil and water-color painting. It is of a brown citrine color, semi-opaque, has all the properties of good ocher, is perfectly durable both in water and oil, and one of the best drying colors we possess. It injures no other good pigment with which it may be mixed.

Umbilical Cord, or Navel String, the bond of communication between the fœtus (which enters at the umbilicus, or navel) and the placenta, which is attached to the inner surface of the maternal womb. It consists of the umbilical vein lying in the center of the two umbilical arteries winding from left to right round the vein. As soon as a child is born, and its respiration fairly established, the umbilical cord is tied, and divided near the navel, which spontaneously closes, the fragment of cord dying away.

Umbrella, a light frame covered with silk, cotton, alpaca, or other fabric, and held above the head as a protection against sun or rain. The use of the umbrella came to us from the East, where it has been in use from remote times, and where it is considered as a symbol of royalty or dignity. As a defense against rain it was not generally used in the Occident till the middle of the 18th century.

Umbrella Bird, in ornithology, a native of Peru. It is about the size of a crow, with deep black plumage; the head is adorned with a large spreading crest, which arises from a contractile skin, and capable of being erected at will; the shafts of the crest-feathers are white, and the plumes glossy blue, hair-like and curved outward at the tips. When the crest is laid back the shafts form a compact white mass, sloping up from the back of the head; when it is erected the shafts radiate on all sides from the top of the head, reaching in front beyond and below the beak, which is thus completely concealed from view. A long cylindrical plume hangs down from the middle of

the neck; the feathers of the plume lap over each other like scales, and are bordered with metallic blue. Umbrella birds associate in small flocks, and live almost entirely upon fruits. Their cry, which resembles the lowing of a cow, is most frequently heard just before sunrise and after sunset.

THE UMBRELLA BIRD.

Umbria, one of the ancient divisions of Italy; lying W. of Etruria, and N. of the country of the Sabines. It is usually described as extending from the Tiber E. to the Adriatic. The Umbrians were subjugated along with the Etruscans, but joined the Samnites in their last gallant struggle against Rome, and were crushed at Sentinum (295 B. C.).

Uncas, an Indian chief; born in 1600. He was on good terms with the whites, who constantly defended him and the Mohegans, of whom he was chief, against the Pequods and Narragansetts. In 1657 he is said to have presented the ground on which Norwich, Conn., stands to Ensign Leffingwell in return for his services. He died about 1682.

Uncle Sam, the familiar name of the United States government, used as John Bull is with respect to England. It is an extension of the letters U. S. (United States), printed or stamped on the government property. It was first used in Troy, N. Y., in 1812, when certain goods purchased for the government and branded U. S., were officially inspected by Samuel Wilson, whose local nickname was "Uncle Sam." The coincidence of initials suggested the application of the nickname in full to the government.

Unclean Animals, in Jewish antiquities, certain animals which were regarded as ceremonially unclean, and not therefore to be eaten. Most animals that "chew the cud" might be eaten, with the exception of the camel, the coney, the hare, and the swine, only the first of which is a true ruminant. A number of birds — the "eagle," the "ossifrage," the "vulture," the "kite," etc.— were to be deemed unclean and abominable. Much difficulty arises in identifying some of the birds referred to; but one broad fact is undoubted—that the Raptores were deemed ceremonially impure, while most of the grain-feeding birds were allowed as articles of food. Unclean fishes were those which had not fins or scales. With the exception of what would now be called the leaping orthoptera — locusts, grasshoppers, etc. most insects were unclean, as were most creeping things, from vertebrate reptiles to molluscous snails. Not merely were the unclean animals to be rejected as articles of food, their carcasses were to be avoided, as the individual touching them would be unclean. Apart from the ceremonial law, the flesh of the prohibited animals was generally less wholesome than that of those allowed.

Uncovenanted Mercy, in theology, an expression used of something not promised by God in any covenant, and specially in the covenant of grace or redemption. For instance, to give Eternal Life to those who believe in Christ promised by God is now regarded as part of a covenant on the part of God, with those who believe in Christ, to extend salvation to those who have not had opportunity of hearing of Christ, is held to be an uncovenanted mercy.

Unction ("anointing with oil"), a practice adopted in the Roman Catholic Church, but repudiated by Protestants. It is used in the consecration of altars; of persons about to be bap-

tized; in confirmation; at the consecration of priests; and of persons near death; in which last instance it is called "Extreme Unction." Olive oil alone is used, and it must have been consecrated by a bishop. The word is used among Protestants in connection with preaching or prayer, implying the gracious assistance of the Holy Spirit, quickening the mental powers, and inspiring the utterances.

Underwood, Benjamin Franklin, an American author; born in New York city, July 6, 1839. After the war he devoted himself for 30 years to lecturing and was especially prominent in 1870–1885 as a representative of the religious "free thought" movements. He was business manager and co-editor of the Boston "Index," and editor of other journals and an extensive contributor to magazines.

Underwood, Francis Henry, an American author; born in Enfield, Mass., Jan. 12, 1825. In 1885 he was appointed United States consul at Glasgow; in 1888 the University of Glasgow conferred upon him the degree of LL. D. His works include a "Handbook of American Literature"; "Cloud Pictures," a series of imaginative stories musical in theme; "Lord of Himself," a novel of old times in Kentucky. He died in Edinburgh, Scotland, Aug. 7, 1894.

Underwood, Lucien Marcus, an American botanist; born in New Woodstock, N. Y., Oct. 26, 1853. He was instructor in several colleges in Illinois; at Syracuse University, and at De Pauw University. He was made Professor of Botany at Columbia University in 1896. He was the author of "Descriptive Catalogue of North America Hepaticæ," and other works. He died in 1907.

Underwriter, one who writes his name at the foot of a policy of insurance. On some policies, only one such name appears; on others several names are added, when each party thus entering his name, is said to "take a line." The system still prevails abroad, but there are also numerous companies whose business it is to grant marine insurances. The underwriters of American cities do not confine their business to marine insurance alone.

Ungava. See EAST MAIN.

Unicorn, an animal having a single horn, frequently mentioned by Greek and Latin authors. Ctesias calls it the wild ass, and Aristotle the Indian ass. Ctesias describes the wild ass as being about the size of a horse, with a white body, red head, and blue eyes, having a horn on the forehead a cubit long, which for the extent of two palms from the forehead is entirely white, black in the middle, and pointed and red at the extremity. Of the horn drinking cups were formed, and those who used them were said not to be subject to spasm, epilepsy, or the effects of poison. Unicorns were said to be very swift and strong, not naturally fierce, but when provoked, they fought desperately with horn, heels, and teeth, so that it was impossible to take them alive.

Unigenitus Bull, one of the most important documents in the history of Jansenism. It was occasioned by the publication of the "Moral Reflexions" of Quesnel, in which all the essential principles of Jansenism were revived, and although cautiously, yet systematically explained, so as to form the basis of that practical, moral, and religious teaching which it is the object of the "Moral Reflexions" to convey. The book was at first simply prohibited by a brief of Pope Innocent XI., in the year 1708; but as it found many patrons, and especially the Archbishop of Paris, Cardinal de Noailles, it was deemed necessary to subject it to a more detailed examination, the result of which was that 101 propositions were extracted from it, and formally condemned, in 1713, by a bull commencing with the word "Unigenitus."

Union Biblical Seminary, the theological seminary of the United Brethren in Christ, at Dayton, O., founded in 1871.

Union College, a coeducational, non-sectarian institution in College View, Neb., founded in 1891.

Union College, an American institution of learning established in Schenectady, N. Y., in 1795 by several religious denominations, from which fact it derives its name. It was the first non-sectarian college incorporated in the United States. The first president was the Rev. John Blair Smith.

Union Jack, the national banner of the United Kingdom of Great Britain, is formed by the union of the cross of St. George (red on white ground), the diagonal cross or saltire of St. Andrew (white on a blue ground), and the diagonal cross or saltire of St. Patrick (red on a white ground).

Union League Club, a club organized in 1863, by members of the Republican party in New York, for social and political purposes.

Union Theological Seminary, an institution for theological education; founded in New York city by the Presbyterian Church in 1836.

Unitarian Church, a communion comprising all who maintain that God exists in one Person only. The name Unitarian is applied specially to a small Christian sect whose distinguishing tenet is the Unity as opposed to the Trinity of the Godhead. From the middle of the 2d century to the end of the 3d century there was a succession of eminent Christian teachers — Monarchians—who maintained, against the ecclesiastical doctrine of the Logos, the undivided unity of God. There are said to have been two classes of them — those who taught that Christ was God in such a sense that it was the Father who became man and those who held that Christ was in nature a mere man, but exalted above all other prophets by the superior measure of Divine wisdom with which he was endowed.

Unitarians reject the entire orthodox scheme — including the doctrines of the Trinity, the vicarious atonement, the deity of Christ, original sin, and everlasting punishment — as unscriptural and irrational. They celebrate the Lord's Supper, not as a sacrament, but as a service commemorative of Christ's death, and expressive of spiritual communion with Him. They also adhere generally to the rite of infant baptism, though there are a few Unitarian Baptist churches.

United American Mechanics, Junior Order of, an American beneficial organization founded in 1853. Membership over 200,000.

United American Mechanics, Order of, an American secret beneficial organization founded in 1845.

United Brethren in Christ, a denomination of evangelical Christians, founded through the labors of Rev. William Otterbein, a minister of the German Reformed Church. His meeting with Rev. Martin Boehm, a minister of the Mennonite Society, about 1766, marked the beginning of a wide-spread revival, in which he and Boehm were the recognized leaders. Preachers were licensed, the church was to a certain extent brought under system, conferences were held in 1789 and 1791, but the religious movement did not take the form of a Church till 1880, in which year an important conference was held at Peter Kemp's in Frederick Co., Md. At this time the name of the denomination was definitely fixed, and Otterbein and Boehm were chosen bishops. Thereafter conferences were held yearly. The Church is Arminian in doctrine, very aggressive in work, and has been characterized by a strong reform spirit, standing from the first opposed to slavery, intemperance, and connection with secret societies. The

Church insists on the observance of the sacraments, but leaves the mode of baptism to the conviction of the candidate. A personal religious experience is necessary to membership. Originating in Maryland, Pennsylvania, and Virginia, the Church extended first to the Middle States, and then principally to the West. There are now two bodies, with total churches, 3,900; ministers, 2,435; members, 296,050.

United Greeks, in Church history, a comprehensive name including all those who follow the Greek rite, and at the same time acknowledge the authority of the Pope.

United Kingdom of Great Britain and Ireland. As Great Britain was the political progenitor of the United States, it may be of interest to note the origin and growth of popular government in that country. The English parliamentary system had two distinct roots—in the nobility and the towns. The numerous class of agricultural workers was for ages in a state not unlike the peonage of Old and New Mexico, and became only within half a century past an element to be reckoned with in politics. For centuries following the Norman conquest the nobleman in his castle was a minor sovereign, while the tradesmen in the towns accumulating wealth and in close contact, in London at least, with king and court, soon proved themselves too valuable to the crown to be ignored in the affairs of the kingdom. That sagacious monarch, Edward the First, was not only England's greatest general that wore a crown, but also the greatest of her royal statesmen, and under him the British Parliament of today had its real origin. Under him also England and Scotland would have been permanently united but for his mistake in supposing that the Scotch could be subdued by the cruel severities which he and his commanders practised in that country. The wars of the Roses, in the 15th century, almost effaced the ancient nobility, and made it possible for the Tudors to be omnipotent, with a servile Parliament. But while the Tudors were tyrants at home their policy abroad — Mary excepted — built up commerce and wealth for England, made the trading classes richer than ever before, and fortified them for their struggle against the autocratic Stuarts. The Reformation also aroused the conscience of the Nation, and animated Englishmen to make a stand for civil as well as religious emancipation. When the Parliament sent a king to the scaffold for treason it gave an example that neither kings nor people could forget, and while reaction was inevitable from a course so far in advance of an age in which the divine right of royalty was unquestioned outside of Great Britain, yet it was impossible thenceforth for an English king to attempt with impunity the usurpations for which Charles I. paid with his life. James II. was driven from the throne because he offended the religious faith of the great majority of Englishmen, and when Parliament exacted from William and Mary their consent to the Bill of Rights, and later, in the reign of William III. diverted the succession, it clearly established in practise if not in theory, its own preëminence over the crown.

All through these centuries of conflict and progress and sometimes of reaction it was not, however, a Parliament of the people, as we understand that term today. Up to the 19th century the landed gentry and the wealthy middle class elected and were elected to the Commons. The Reform Bill of 1832, passed after fierce Parliamentary strife, in which the Lords made their last great rally for the maintenance of oligarchy, first opened to the common people the prospect of a voice in the government. Chartism followed, with its agitation almost reaching civil war, for a more extended suffrage and other steps in the direction of popular rule. Chartism was put down by military force, and it was not until 1867–68 that a real Reform Bill was adopted which conferred household suffrage throughout Great Britain. The "People Act" of 1884 made suffrage general, and in the following year an act was passed effecting an equitable distribution of Parliamentary seats.

The Parliament thus constituted — the House of Lords retaining in form its ancient privileges — is, with the crown, in absolute control over the

British empire. Crown and Parliament can by their concurrent action, pass or repeal any law, efface any right, and even contravene, as in the disestablishment of the Irish Church, the oath which the sovereign had taken in assuming the crown. There is no constitution, as in the United States, to direct and restrict the legislature. The so-called British Constitution consists of the principles of government which the ruling classes of England have learned throughout centuries of experience to regard as fundamental and inviolable. They had their origin in the "ancient custom of England," the laws of Saxon and Dane, breathing the freedom of forest and Northland, and the spirit of fair-dealing between man and man. Norman feudalism, while reducing the mass of Saxons to bondage, did not utterly efface the old institutions, and the covenant between the barons and King John at Runnymede was in large degree a revival of rights which that most worthless of English kings had sought to efface. The Magna Charta is justly regarded as the basis of English liberties, but to Americans the Declaration, or Bill of Rights, by both Houses of the English Parliament when the crown was offered to William and Mary, is of even more reverent interest, as it was not only the "greater charter" of the English people, but also the original charter of American liberty, and its spirit and language can be clearly traced in the Declaration of Independence. Respect for the rights of property, speedy and impartial justice, jury trial, and the right of every person to the protection of the laws are among the constitutional safeguards which Parliament would never dare to invade.

The reigning house of Great Britain owes its title to the throne to Act of Parliament passed, as already noted, in the reign of William III., whereby the succession to the crown of Great Britain and Ireland was settled on the Princess Sophia of Hanover "and the heirs of her body, being Protestants." This was done to prevent a recurrence of the trouble caused in the previous reign by the fact that James II. was a Roman Catholic, and sought to convert the nation to his views. Without this Act of Parliament the male descendants of James II. and their heirs would have inherited the throne. Parliament, in diverting the crown to the Protestant branch of the family, kept it, however, within the ancient lineage, and King George can, therefore, claim to reign also by inheritance. The crown has the right to approve or disapprove Acts of Parliament, which, without such approval, are void. This power is never, in this age, used in the negative, and if a bill passes the House of Commons and the House of Lords the royal assent is invariably given. All authority of the crown is exercised through the Cabinet, whose members represent the majority in Parliament, and are themselves members of Parliament, and should the Cabinet fail of a majority in the House of Commons on any issue indicating a lack of confidence in the Ministry, the ministers resign, and a new election is held. It has been known that a weary Premier has resigned on a trivial defeat, not indicating any loss of confidence, simply because he desired to withdraw for a time from office, or felt sure of a stronger support in a newly elected Parliament.

The Cabinet, representing Parliament and Crown, administers in every detail the affairs of the Kingdom, and also all matters of imperial concern. Its chief is usually the acknowledged political leader of the party having a majority in the House of Commons, and he selects his associates, who are also men of eminence. In this essential feature the British ministry differs altogether from the American Cabinet, whose members may have been invited from obscurity, and are simply servants of the President, and often antagonistic to the majority in Congress.

It should not be supposed, however, that the king of Great Britain is without real authority. His social influence is almost omnipotent, he is consulted by his ministers on public affairs, and his views have great influence upon the course of events. In matters affecting military and naval promotions, the distribution of titles and honors, and to some degree in the foreign relations of the empire, his expressions are authoritative. It is generally understood, for instance, that the late Prince Consort, husband

of Queen Victoria, had a decisive influence in preventing Great Britain from antagonizing the United States in the early part of our Civil War. It is also understood that the influence of King Edward largely contributed to the success of the negotiations for the treaty of arbitration between France and England in October, 1903.

The House of Lords can, if it chooses, disagree with the House of Commons. It has rarely done so of late years, however, and only when its members felt that a large proportion, and probably a majority of the people also disagreed with the Commons. Any persistent obstruction by the House of Lords to the manifest will of the people would obviously invite the abolition of the upper branch of Parliament.

The House of Commons, since the reforms of 1884–85, is the British Nation in miniature. A seat in the House is the goal of ability and ambition, and every class is represented on its benches. In debate the House is extremely tolerant. Nothing short of a riot or malicious personal insult provokes warning from the Speaker, and perhaps suspension, and the rights of an offending member are jealously guarded. The Cabinet is always represented, either by its chiefs, or assistant secretaries, ready to defend its acts, and to answer questions of which due notice has been given. Thus the business of the Nation is threshed out day after day in the electric light of a free press and virtually in the hearing of the people from Land's End to John O'Groat's.

Parliament usually meets in February, and sits until the end of August, reversing the American rule of winter sessions. Every session ends with a prorogation, and all bills which have not passed during the session are dropped. Elections to Parliament are by secret ballot, and as almost one-sixth of the population are electors, suffrage is practically universal.

The area of the United Kingdom of Great Britain and Ireland is 120,979 square miles, or a little more than the combined area of New York, Pennsylvania and West Virginia. England, apart from Wales, is a little larger than the State of New York, while Ireland is about two thousand square miles larger, and Scotland about six hundred square miles smaller than South Carolina. The population of the United Kingdom is about 42,000,000, of whom nearly 33,000,000 live in England and Wales, that is in an area somewhat smaller than the State of Michigan, which has a population of about 2,500,000, and yet England can hardly be described as overcrowded. The entire population of the empire subject to this little island of Great Britain is 397,404,352, and the area 11,324,678 square miles. This great Empire is policed by a comparatively small army of 278,240 regulars and 742,568 effectives, the chief strength lying in the navy, which is an aggregation of the most modern and powerful warships.

The established church of England is Protestant Episcopal, but all others are fully tolerated. The king is the supreme ruler of the church, the convocations which manage ecclesiastical affairs are summoned by the archbishops in pursuance of the king's mandate, and when assembled they must have the king's license before they can deliberate. The annual income of the church is about $36,250,000, and the number of clergy about 27,000. The dissenting bodies are very numerous. The Church of Scotland is organized on the Presbyterian system of government, and has a General Assembly, partly clerical and partly lay, which meets annually in May. The large majority of the Irish are Roman Catholics, but the Protestant Episcopal Church of Ireland claims 600,000 members, and there are about half a million Presbyterians, and smaller numbers of Methodists, Independents, Baptists, Quakers, and Jews.

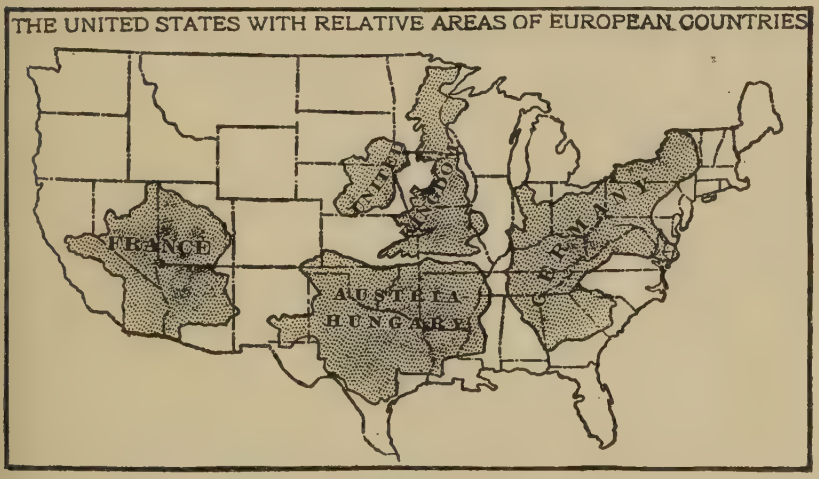
While education in England is general and within reach of all, the methods have been inferior to the American system of free public schools. Acts of Parliament, 1903, 1904, and the much discussed Education Bill of 1906, aim at far-reaching improvement.

United Presbyterian Church, a religious body in Scotland, constituted in 1847 by the amalgamation of the "Secession" and "Relief" churches. The immediate cause of the formation of the Secession Church was the restoration in 1712 of the obnoxious

Law of Patronage. In point of doctrine it adheres to the Westminster Confession of Faith, and the Larger and Shorter Catechisms. The United Presbyterian Church of North America has now about 984 churches, 994 ministers and 130,340 communicants.

United States Christian Commission, an organization founded by the National Young Men's Christian Association to perform religious and charitable work among the Union forces during the Civil War.

United States of America, a Federal republic, composed (1911) of 48 States, the Territories of Hawaii and Porto Rico, a Federal District, and the District of Alaska; besides the Philippine Islands, Guam, Tutuila, and other possessions; chiefly occupying the temperate portions of North America from lat. 24° 20′ to 49° N., and lon. 66° 48′ to 124° 32′ W.



Boundary.— The United States is bounded on the N. by British North America, the boundary line running through the Strait of Juan de Fuca to the S. of Vancouver's Island, but to the N. of the island of San Juan, striking the mainland at the 49th parallel and running along that parallel to the Lake of the Woods, and thence by a devious route through the Great Lakes and along the Laurentian water-shed to the St. John's and St. Croix rivers and Fundy Bay. The land boundary is a clearing 30 feet wide, with iron mile posts 4 feet high painted white. The E. and W. boundaries are formed by the Atlantic and Pacific Oceans respectively, the S. boundary by the Gulf of Mexico, the Rio Grande del Norte up to the 32d parallel, and a broken line drawn between the 31st and 33d parallels to the Pacific separating the United States from Mexico. These boundaries do not include Alaska. The ocean shore lines are as follows: North Atlantic coast, including bays, islands, etc., 6,150 miles; South Atlantic coast, 6,209; Mexican Gulf coast, 5,744; Pacific coast, 3,251 — total, 21,354. The land, lake, and river boundary toward Canada is 3,700 miles, and the similar one toward Mexico, 2,105 miles; making the total ocean, land, lake, and river boundary, 11,075 miles. Excluding Alaska the greatest Continental extent E. and W. is 3,100 miles and N. and S., 1,780 miles.

The long-pending dispute between the United States and Canada relating to the boundary between the United

States and Alaska, was brought to a conclusion in October, 1903, by the tribunal appointed to decide the same. This commission consisted of three Americans and three Britons, the American commissioners being Secretary of War Root, Senators Lodge and Turner, while the British commissioners were Lord Alverstone, English, Sir Louis Jette, and Mr. A. B. Aylesworth, Canadian. Ex-Secretary Foster was counsel for the American side and Mr. Clifford Sifton for the British side. They adjudged that the boundary should be "the line of peaks starting at the head of Portland Canal and running along the high mountains on the outer edge of the mountains shown on the maps of survey made in 1893, extending to Mount Whipple, and thence along what is known as the Hunter line of 1878, crossing the Stikine river, about twenty-four miles from its mouth, thence northerly along the high peaks to Kate's Needle, from Kate's Needle to the Devil's Thumb. The tribunal stated that there was not sufficient evidence, owing to the absence of a complete survey, to identify the mountains which correspond to those intended by the treaty. This contemplates a further survey of that portion by the two governments. From the vicinity of the Devil's Thumb, the line runs to the continental watershed, thence through White and Taiya, or Chilkoot Passes, westerly to a mountain indicated on the map attached to the treaty as 6,850 feet, thence to another mountain 5,800 feet, and from that point, in a somewhat curved line, across the head of the glaciers to Mount Fairweather. This places the Canadian outpost on the upper water of Chilkat river in British territory, and the mining camps of Porcupine and Glacier Creek in American territory. From Mount Fairweather the line passes N. on high peaks along the mountains indicated on the map by Mounts Pinta, Ruhama and Vancouver to Mount St. Elias."

The decision being very favorable to the United States caused deep resentment in Canada, where there was serious advocacy in some influential newspapers of the wisdom of complete separation from Great Britain.

Area.— The following table shows the surface areas in square miles of all continental and insular possessions, as reported by the General Land Office, on June 30, 1910:

State or Territory.	Land.	Water.	Total area.
Alabama	51,279	719	51,998
Arizona	113,840	116	113,956
Arkansas	52,525	810	53,335
California	156,092	2,205	158,297
Colorado	103,658	290	103,948
Connecticut	4,820	145	4,965
Delaware	1,965	405	2,370
Dist. of Col	60	10	70
Florida	54,861	3,805	58,666
Georgia	58,725	540	59,265
Idaho	83,779	534	84,313
Illinois	56,002	663	56,665
Indiana	35,885	469	36,354
Iowa	55,586	561	56,147
Kansas	81,774	384	82,158
Kentucky	40,181	417	40,598
Louisiana	45,409	3,097	48,506
Maine	29,895	3,145	33,040
Maryland	9,941	2,386	12,327
Massachusetts	8,039	227	8,266
Michigan	57,480	500	57,980
Minnesota	80,858	3,824	84,682
Mississippi	46,362	503	46,865
Missouri	68,727	693	69,420
Montana	145,776	796	146,572
Nebraska	76,808	712	77,520
Nevada	109,821	869	110,690
New Hamp.	9,031	310	9,341
New Jersey	7,514	710	8,224
New Mexico	122,503	131	122,634
New York	47,654	1,550	49,204
N. Carolina	48,740	3,686	52,426
N. Dakota	70,183	654	70,837
Ohio	40,740	300	41,040
Oklahoma	69,414	643	70,057
Oregon	95,607	1,092	96,699
Pennsylvania	44,832	294	45,126
Rhode Island	1,067	181	1,248
S. Carolina	30,495	494	30,989
S. Dakota	76,868	747	77,615
Tennessee	41,687	335	42,022
Texas	262,398	3,498	265,896
Utah	82,184	2,806	84,990
Vermont	9,124	440	9,564
Virginia	40,262	2,365	42,627
Washington	66,836	2,291	69,127
West Virginia	24,022	148	24,170
Wisconsin	55,256	810	56,066
Wyoming	97,594	320	97,914
	2,974,159	52,630	3,026,789
Alaska	.....	.....	590,884
Guam	.....	.....	210
Hawaii	.....	.....	6,449
Pan. Can. Strip	.....	.....	474
Philippine Is.	.....	.....	115,026
Porto Rico	.....	.....	3,435
Tutuila Group, Samoa	.....	.....	77
Total	.....	.....	3,743,344

In addition to the above water areas, Illinois has 1,674 square miles of Lake Michigan; Indi-

ana, 230 of Lake Michigan; Michigan, 16,653 of Lake Superior, 12,942 of Lake Michigan, 9,925 of Lake Huron, and 460 of Lakes St. Clair and Erie; Minnesota, 2,514 of Lake Superior; New York, 3,140 of Lakes Ontario and Erie; Ohio, 3,443 of Lake Erie; Pennsylvania, 891 of Lake Erie; and Wisconsin, 2,378 of Lake Superior and 7,500 of Lake Michigan. California, Oregon, and Texas claim jurisdiction over Pacific and Gulf waters for certain distances from their coast lines.

Public Domain.— Many persons have the impression that the public lands of the United States are nearly if not quite exhausted, and that any such as may remain are situated only in the Far West. The fact is that there are still approximately 731,000,000 acres of public domain. The greater part of this area, it is true, is west of the Mississippi, where there are tracts of from 18,000,000 to 57,000,000 acres each in Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, and Wyoming; but there are also considerable tracts in Alabama, Florida, Louisiana, Michigan, Mississippi, and a few other States, and over 368,000,000 acres in Alaska. As a result of the National conservation of natural resources, over 294,000,000 acres have been withdrawn from settlement. About 193,000,000 acres have been converted into National forest reservations; 72,000,000 acres are valuable coal land; and 17,500,000 have been appropriated to the Reclamation Service (irrigation).

Topography.— The two great mountain systems of the United States are the Appalachians and the Rocky Mountains. The former extend from the mouth of the St. Lawrence to the mouth of the Mississippi — a distance of 1,300 miles — and at the S. bend inland, leaving the wide and rich seaboard of Virginia, the Carolinas, Georgia, Alabama, and Florida. This maritime region includes all the other States and its inhabitants still amount to one-third of the whole. As far S. as the Hudson river it is hilly; thence, as far as the Alleghenies extend, its surface is divided between a plain and a mountain slope, the base of which appears to have been the shore of an ancient sea. The most fertile part of this slope is between Long Island and the Potomac. The coast to the Mississippi is sandy throughout; from Long Island to North Carolina it is marshy only close to the sea, but further S. the seaward half of the plain is covered with swamp. The Appalachians form the watershed between the rivers draining into the Atlantic and the tributaries to the Mississippi, though some of the former may be said to rise on the inland side of the mountains, and to force a passage through them to the sea. The principal rivers falling into the Atlantic are the Penobscot, Kennebec, Merrimac, Connecticut, Hudson, Delaware, Susquhanna, Potomac, Rappahannock, James, Roanoke, Pedee, Santee, Savannah, and Altamaha. The Chattahoochee and the Flint rivers joining form the Appalachicola: the Alabama and Tombigbee the Mobile; these drain into the Gulf of Mexico E. of the Mississippi.

The great central plains and prairies between the Appalachians and the Rocky Mountains are drained almost entirely by the Mississippi and its affluents, chief of which are the Ohio, Tennessee, Missouri, Arkansas, and Red river. The only other river of great importance flowing into the Gulf of Mexico is the great boundary river, the Rio Grande del Norte. The streams flowing N. are trifling, the principal being the Red river of the North, which flows into Lake Winnipeg. Almost the whole of the Mississippi basin consists of open, rolling prairies, while, on the other hand, almost all the country between the Appalachians and the Atlantic was originally more or less thickly wooded. Between the Rocky Mountains and the Pacific Alps, called Sierra Nevada, in California and Cascade Range further N., lies a rainless region, mostly S. of lat. 40° N., with an average elevation of 5,000 feet above the ocean, a great part of it communicating, not with the sea, but draining into salt lakes and marshes. Except where irrigated, this plateau is utterly unproductive. To the N. it is drained by the Columbia, with its tributary the Snake river, which forces its way through the Sierras to the Pacific; while in the S. portion the Colorado and its affluents, after flowing through frightful canyons 3,000 to 5,000 feet below the surface of the plateau for some 600 miles, forms a delta at the head of the Gulf of California. The

Great Canyon of the Colorado is more than 300 miles long. Between the Sierras and the ocean stretches the comparatively narrow but rich and beautiful sea-coast known as the Pacific Slope, drained by the Columbia, the Klamath, the Sacramento, and the San Joaquin, along with numerous smaller streams. The "Great Divide," or watershed, is in Montana and Wyoming, whence flow the Missouri, Columbia, and Colorado. In this wild region Congress set apart in February, 1872, the Yellowstone National Park, a tract 64 by 55 miles in extent (area 3,575 miles) in the N. W. of Wyoming. The region, while mostly unfit for agriculture and mining, contains more natural marvels than can be found elsewhere. There are hot springs with their basins encrusted with calcareous spar, steam jets, geysers, mud volcanoes, waterfalls, caves with stalactites and stalagmites, eroded columns, statues, castles, cathedrals, etc., and a large lake swarming with fish. The valley of the Upper Yellowstone abounds in these wonders.

Climate.— The vast area of the United States necessarily exhibits a great variety of climate. New York has the winter of Copenhagen and the summer of Rome, the minimum range of the mercury being 5° in winter, and the maximum 98° in summer. The States bordering on Canada exceed both of these extremes, but throughout the Middle States latitude 37°–41°, the climate is agreeable and often delightful throughout most of the year. The main peculiarity of the North American seasons is the almost total absence of spring. Mason and Dixon's Line, with its W. extension along the Ohio, Mississippi, and Missouri has an historical interest, but is also of climatic importance in the geography of the cis-Missouri States. N. of it, sleighs are in frequent use during winter; S. of it, they are seen rarely. To the N. the productions are those of the temperate zone, and the States were always free; to the S., the country becomes more and more tropical as one advances. From meridians 98° to 100° the climate is still variable from year to year, seasons of rain and plenty being followed by others in which drought is the forerunner of scarcity. But the planting of forest trees and the cultivation of the soil, at first by irrigation, has largely increased the amount of rainfall. Along the Pacific seaboard, especially in California, the climate resembles that of S. Europe. The isothermal lines, roughly stated, show a mean temperature of 72° for Florida, the Gulf shores, and Arizona; of from 52° to 60° for S. of Pennsylvania, Virginia, the N. border of the Carolinas, Tennessee, Missouri, Kansas, S. of Utah and Nevada, and the greater part of California; from 44° to 52° for Massachusetts, New York, Michigan, Northern Illinois, Nebraska, Oregon, and Washington; and from 36° to 44° for Maine, parts of New Hampshire and Vermont, Wisconsin, Minnesota, the whole crest of the Rocky Mountains, and parts of Oregon and California along the Sierras. The annual rainfall ranges from 56 to 64 inches in the S. of Florida and along the N. W. Pacific coast; 44 to 56 inches over the New England coast and the greater part of the Southern States, while in New York, Pennsylvania, Illinois, etc., it is 32–44 inches. In Texas, Oklahoma, Eastern Kansas and Nebraska, the Dakotas and Minnesota, and Western California, it is 20–32 inches, while in the tract between 98° and 118° it ranges from 18 to 4 inches. Malarial diseases prevail in the lowlands of most of the Southern States, as also in the new and marshy portions of the Western States below lat. 40° N. Consumption and chest diseases prevail in New England and in the Middle States. Minnesota, Colorado, California, Arkansas, Georgia, and Florida are favorite resorts for persons with weak lungs. On the whole the climate of the United States may be called heathful, malarious and deadly spots being very few; while certain districts, especially of Florida, the central plains, and the Pacific coast, are among the most salubrious in the world.

Geology.— Geologically as well as geographically the United States is divided into two great sections by the Rocky Mountains, along whose whole extent, in a wide belt from N. to S., Cretaceous formations predominate, with occasional stretches of Carboniferous strata. Tertiary formations em-

brace almost the whole of the basin between the Rocky Mountains and the Pacific Alps, broken by igneous rocks in parts of Washington and Oregon, and Metamorphic strata along the Sierras; in the E. section Tertiary formations stretch along the coast from the Rio Grande almost to the Hudson. Metamorphic, igneous, and Devonian rocks prevail in New England, and along the shores of the Great Lakes the Middle Devonian or Old Red Sandstone. Older Palæozoic groups occur in Wisconsin, Ohio, and Tennessee, and run side by side with Metamorphic strata along the Appalachians, while a large proportion of the interior is occupied by great Carboniferous deposits.

Mineralogy.— The various mineral products of the United States broke all records for quantity and value during the calendar year 1907, and the remarkable development of the mining industry from 1880 to the close of 1907 is shown in the following table:

Class.	1880.	1907.
Metallic.....	$185,649,163	$903,802,244
Non-metallic.	173,279,135	1,167,705,720
Unspecified..	6,000,000	100,000
Total....	$364,928,298	$2,071,607,964

Of all products in this phenomenal year, coal, in its two chief classes of anthracite and bituminous, held the first place, with a total production of 480,363,424 short tons, valued at $614,798,898; and in the 40 years then elapsed the percentage of the production of the United States in the world's total output rose from less than 15 per cent. to 39.43. The 1907 production exceeded that of Great Britain by over 180,392,000 short tons, or 60 per cent., and that of Germany by 253,590,000 short tons, or over 100 per cent., these two countries being our closest productive competitors.

The coal areas of the United States embrace two great divisions, viz: the anthracite, confined almost exclusively to the E. part of Pennsylvania, but with smaller areas in Colorado and New Mexico, and the bituminous, scattered widely over the entire country, and including an area of 496,000 square miles. Of the total 1907 production, anthracite furnished 85,604,312 short tons, and bituminous 394,759,112. The coal mines of the United States give employment to about 700,000 men, notwithstanding the fact that about 36 per cent. of the total production is mined by machines, and the total output in 1814–1908 was 7,280,940,265 short tons.

Next to coal, came in the order given, pig iron 25,781,361 long tons, valued at $529,958,000; copper, 868,996,491 pounds, valued at $173,799,300; clay products, valued at $158,942,369; and petroleum, 166,095,335 barrels, valued at $120,106,749.

Agriculture.— In his official report, covering the calendar year 1910, Secretary Wilson, of the Department of Agriculture, said: "Nothing short of omniscience can grasp the value of the farm products of this year. At no time in the world's history has a country produced farm products within one year with a value reaching $8,926,000,000, the value of the agricultural products of this country for 1910." An analysis of his report yields the following astonishing details of production:

Crop.	Quantity.	Value.
Corn.....	3,125,713,000 bu..	$1,523,768,000
Winter wheat...	464,044,000 " ..	413,575,000
Spring wheat...	231,399,000 " ..	207,868,000
Oats.....	1,126,765,000 " ..	384,716,000
Barley....	162,227,000 " ..	93,785,000
Rye.....	33,039,000 " ..	23,840,000
Buckwheat	17,239,000 " ..	11,321,000
Flaxseed...	14,116,000 " ..	32,554,000
Rice.....	24,510,000 " ..	16,624,000
Potatoes...	338,811,000 " ..	187,985,000
Hay.....	60,978,000 tons.	747,769,000
Tobacco...	984,349,000 lbs..	91,458,773
Cotton....	11,426,000 bales	900,000,000

Secretary Wilson declared the corn crop to be a National asset in more than one sense, and its value "a sum sufficient to cancel the interest-bearing debt of the United States, buy all of the gold and silver mined

in all of the countries of the earth in 1909, and still leave to the farmers a little pocket money."

The total acreage of all farms was reported at 2,562,000 acres, of which 70 per cent. was improved. The value of all farm lands and buildings was $213,141,000, and the value of farm implements and machinery, $12,955,000.

Live Stock.— There were on the farms and ranges of the country a total of 199,241,000 farm animals, valued at $5,137,886,000. These farm animals comprised the following:

Class.	Number.	Value.
Horses	21,040,000	$2,276,363,000
Mules	4,123,000	494,095,000
Dairy cows	21,801,000	780,308,000
Other cattle	47,279,000	917,453,000
Sheep	57,216,000	233,664,000
Swine	47,782,000	436,003,000

Irrigation.— Much of the wonderful development of the agricultural industry in the last few years has been due to the great work of the National government under the original irrigation Acts of Congress and more especially since the organization of the Reclamation Service in 1902. For irrigation purposes the country is divided into three sections, known as (1) the Arid States and Territories; (2) the Semi-Arid States and Territories; and (3) the Rice States; and these sections embrace 17 States and Territories. So far about 170,000 farms have been irrigated, comprising over 11,000,000 acres, at a construction cost of nearly $150,000,000. In 1911, President Taft submitted to Congress the report of a special board of army engineers to examine the various reclamation projects the government had undertaken and to recommend the proportions in which $20,000,000 should be expended thereon.

Flora and Fauna.— The indigenous plants of the United States are estimated at about 5,000 species, California alone producing at least 2,500. The potato, the tobacco plant, and maize, now so familiar in Europe, have all been introduced from the United States or Mexico. The United States is especially rich in valuable timber trees, of which no less than 120 species, growing in sufficient quantities to be of commercial importance, attain a height of 100 feet and upward. Of these 12 species reach an altitude of 200 feet, and 5 or 6 exceed 300 feet. Hickory, magnolia, liquid-amber, sassafras, and sequoia trees (to which species belong the giant trees of California), found only in a fossil state in the Old World, abound in the United States, as well as palmetto, tulip tree, cypress, cottonwood, live oak, and other oaks, and a number of trees more or less closely resembling the common species of Western Europe, to which the same names have been given. So far as they have been described and classified, the Vertebrata are estimated at 2,249 species, the Mollusca at about 1,434 species, while an eminent entomologist considers that there are probably over 50,000 species of insects.

Our forests now cover over 550,000,000 acres, or about one-fourth of the entire area of the continental United States, and of this acreage about four-fifths are privately owned and contain at least that proportion of all standing timber. At the present time the rate of cutting is three times the annual growth. Of the forests publicly owned systematic forestry is now practiced on about 70 per cent., and on those privately owned less than 1 per cent.

The Forest Service of the United States has charge of the administration and protection of the National Forest Reservations, which, in 1911, covered an area of over 195,000,000 acres in 20 States and Territories, and with two others in Alaska and one in Porto Rico, numbered over 150. The value of the public property administered by the Forest Service is estimated at over $2,000,000,000, and the conservation of the great areas of the forests by the government is beginning to serve the purpose of their reservation, especially in the Western States.

Manufactures.— Considering the aggregate value of products, manufacturing constitutes the leading industry of the United States. Accord-

ing to a special "Bulletin" of the Bureau of the Census, there was a total of 216,262 manufacturing establishments, employing $12,686,265,673 capital and 5,470,321 wage-earners; paying $2,611,540,532 for wages, $574,761,231 for salaries, $1,453,019,473 for miscellaneous expenses, and $8,503,949,756 for materials used in processes; and having an output valued at $14,802,147,087. In comparing these figures with those of previous years, it should be borne in mind that this report covered only the establishments conducted on the factory system, thus excluding small shops and individual artisans, and thus also making an apparent discrepancy in the various details.

The articles yielding the largest values were, in the order given: Food and kindred products, $2,845,234,900; iron and steel and their products, $2,176,739,726; textiles, $2,147,441,418; lumber and its manufactures, $1,223,730,336; chemicals and allied products, $1,031,965,263; metals and their products, other than iron and steel, $922,262,456; and leather and its products, $857,112,256.

The development of the manufacturing industry in 1850–1905, as measured by the value of output and reported by the Census, was as follows:

Year.	Value.	Year.	Value.
1850..	$1,019,106,616	1890..	$9,372,437,283
1860..	1,885,861,676	1900..	13,004,400,113
1870..	4,232,325,442	1905..	14,802,147,087
1880..	5,369,579,191		

Fisheries.— The various fisheries employ about 7,000 vessels of all kinds, over 220,000 persons, and about $95,000,000 capital, and the value of the annual catch exceeds $62,000,000. During 1910 the United States Fish Commissioner broke all records of his office in the distribution of young fish and eggs, the amount being over 3,233,000,000. More than 60 per cent. of the quantity and nearly the same proportion of the value of the fishery products landed at Boston and Gloucester, Mass., by the American fishing fleet during the year were caught on fishing grounds lying off the coast of the United States. The Bureau of Fisheries maintains 35 fish hatcheries and 84 sub-hatcheries, auxiliaries, and egg-collecting stations, in 32 States and Territories

Railroads.— The remarkable development of the railroad systems of the United States is set forth in the following summary of mileage from the reports of the Interstate Commerce Commission and other sources in ten-year periods:

Year.	Mileage.	Year.	Mileage.
1860....	30,626	1890...	163,597.05
1870....	52,922	1900...	193,367.58
1880....	93,267	1910...	241,442.79

The capital stock of all companies in 1910 was $8,030,680,963; bonded debt, $9,911,601,612; unfunded debt, $269,887,378; current accounts, $933,646,991; sinking and other funds, $311,448,385—total liabilities, $19,457,265,329; cost of railroads and equipment, $14,514,822,308; total assets, $20,246,567,609; excess of assets over liabilities, $789,302,280. The traffic revenue was: from passengers, $578,243,601; freight, $1,720,863,413; other sources, $214,105,749 — total, $2,513,212,763. A Census "Bulletin" in 1910 reported a total of 34,403 miles of street railway track, the greater part of which was operated by electricity, that cost over $3,600,000 for construction.

Telegraph and Telephone.— In 1911 there were three telegraph companies in operation, the Western Union, Commercial Cable, and Postal. The former reported 1,429,049 miles of wires, 24,825 offices, and 75,135,405 messages handled in a year. The Bell System of Telephone service had 5,142,692 stations, 10,480,026 miles of wire, and handled 20,442,535 messages and conversations. The capital stock of the Western Union was $99,786,968; capital stock and funded and floating debts of the Bell System, $581,300,000.

Banking.— The Comptroller of the Currency reported at the end of 1910: total National banks in operation,

6,996; capital, $963,457,549; net earnings, $154,167,489; surplus, $630,159,719. There were also 12,166 State banks, with total resources, $3,694,958,766; .638 mutual savings banks, with deposits, $3,360,563,842; 1,121 stock savings banks, with deposits, $709,922,403; and 1,089 loan and trust companies, with resources, $4,216,850,061, and deposits, $3,073,122,706. The thrift of the people was attested by deposits in all banks of $9,996,179,946.

Insurance.— The United States is the greatest life insurance country in the world, 189 regular or "old line" companies and 796 assessment companies having an aggregate of $25,144,209,882 of insurance in force between them, on 36,849,228 policies. Fire insurance is handled by 322 stock and 272 mutual companies, which disbursed over $300,000,000 and wrote risks of over $34,000,000,000 in a single year. Casualty and surety insurance companies have in force policies representing $8,980,000,000, chiefly for accident and health, employers' liability, fidelity, and surety. Marine insurance was written by 18 companies for $6,222,385,385 in a single year.

Commerce.—As in other respects elsewhere noted, the year 1910 was a phenomenal one in American commerce. With the great total of $3,427,218,892, the foreign trade of the country was greater than that of any preceding year, and gave a balance in favor of the United States of $301,603,648. The value of all imports was $1,562,807,622; of all exports, $1,864,411,270. The entire foreign trade exceeded by about $80,000,000 that of the former high record year (1907). In the single item of cotton the exports reached $530,000,000 in value, exceeding by more than $60,000,000 the highest record ever before made.

Army.— Under present laws the total enlisted strength of the army at any one time is limited to a maximum of 100,000. The force in active service in 1911 comprised 15 regiments of cavalry, with 765 officers and 12,775 enlisted men; 6 regiments of field artillery, with 236 officers and 5,220 men; Coast Artillery Corps, with 170 companies, 672 officers, and 19,321 men; 30 regiments of infantry, with 1,530 officers and 25,231 men; 3 battalions of engineers, officered by the Corps of Engineers, and with 2,002 men; a regiment of infantry in Porto Rico, with 32 officers and 576 men; a force of 52 companies of native scouts in the Philippines, with 180 officers and 5,732 men; and special services, with 11,777 men. Active staff and line officers numbered 4,453; enlisted men, exclusive of the Hospital Corps and the Philippine force, 76,911.

Navy.— In the article on DREADNAUGHTS (*q. v.*), mention is made of what the United States has been doing of late to maintain its high position as a sea power. At the beginning of 1911 it ranked second among naval powers in the number of first-class cruisers and third in modern battleships, and naval authorities were agreed that with the completion of battleships then on the stocks only Argentina and Brazil would have ships of greater displacement than those of the United States. Of effective ships, there were 24 modern battleships, 9 older battleships, 15 first-class cruisers, 3 second-class cruisers, 14 third-class cruisers, 21 gunboats, 10 monitors, 40 destroyers, 33 torpedo boats, and 35 submarines, with a total of 51,296 officers and men. In Dreadnaught tonnage Great Britain led the world, with 9 ships of 202,950 total tonnage. The United States was second, with eight ships of 189,650 total tonnage, and Germany third, with 6 ships of 127,500 total tonnage. Of the world's total Dreadnaught tonnage, the United States and Great Britain own within 86,500 tons of half. The most significant of recent American developments in naval ordinance are improvements in the size, power, and accuracy of guns; improvements in the quality of projectiles; and improvements in the range and accuracy of torpedoes. In battleship practice shooting the range has been changed from 6,500 yards to more than 10,000 yards, and at the latter distance records were made by the 16 battleships of the Atlantic fleet in 1910 that astonished the naval world.

Religion.— In 1910 the Census

1 Major-General, Dismounted, Full Dress. 2 Bri
Coast Artillery, Service Uniform for all Officers. 4
and Service Hat for all Officers. 6 Brigadier-Gen
Dress. 8 Lieutenant of Corps of Coast Artillery. 9
11 Sergeant-Major of Corps of Coast Artillery, Dress.
Dress. 14 Private of Infantry, Service, Complete
16 Captain, Special Full Dress. 17 Major of Marine
Undress. 20 Lieutenant, Overcoat for all Officers.
Jersey. 23 Seaman, Overcoat. 24 Chief Petty Offi
26 Sergeant of Marine Corps, Undress Blue.

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l, Mounted, Full Dress. 3 Captain of Corps of antry, Full Dress. 5 Major of Infantry, Overcoat l, Dress. 7 Adjutant, Captain of Artillery, Full antry, Full Dress. 10 Private of Infantry, Service. of Field Artillery, Service. 13 Private of Cavalry, ent. 15 Admiral of the Navy, Special Full Dress. eutenant, Service Dress for all Officers. 19 Gunner, n Mate, First Class, White Dress. 22 Seaman, ess. 25 Private of Marine Corps, White Dress.

Bureau issued a special report (2 vols.) on "Religious Bodies," of which the following is a summary:

BODIES.	Organizations.	Clergy.	Members.
All bodies	210,418	164,830	32,936,445
Protestant bodies	194,497	146,451	20,287,742
Adventist	2,537	1,152	92,735
Baptist	54,707	43,790	5,662,234
Christians	1,534	1,011	110,117
Christian Scientist	635	1,276	85,717
Congregational	5,700	5,802	700,480
Disciples	10,909	8,741	1,142,359
Dunkers	1,090	2,255	97,144
Evangelical	2,730	1,495	174,780
Friends	1,141	1,479	113,772
Ger. Evang. Syn. N. A	1,198	972	293,137
Independent	1,065	**	73,673
Lutheran	12,642	7,841	2,112,494
Mennonite	604	1,006	54,798
Methodist	64,255	39,737	5,749,838
Presbyterian	15,471	12,456	1,830,555
Prot. Episcopal	6,725	5,368	886,942
Reformed	2,533	2,039	449,514
Unitarian	435	541	70,542
Unit. Brethern	4,268	2,435	296,050
Universalist	811	724	64,158
Other Protestant	3,637	6,331	226,703
Roman Catholic	12,472	15,177	*12,079,142
Jewish	1,152	1,084	‡101,457
Latter-day Saints	1,184	1,774	256,647
Eastern Orthodox	411	108	129,606
All others	702	236	81,851

*All members of families. ‡Heads of families only. ** Not reported.

There were also reported 192,795 church edifices and 14,791 halls used for church purposes; value of church property, $1,257,575,867; parsonages, 54,214; value, $143,495,853. Sunday schools numbered 178,214 and had 1,648,664 officers and teachers and 14,685,997 scholars.

Schools.— The United States has no National system of public school administration, leaving the primary responsibility for educational control entirely with the several States; but it has a National program of education, which it is constantly promoting by most liberal measures, through its Bureau of Education.

The total school population now exceeds 25,000,000, nearly evenly divided between boys and girls; the enrollment in the public schools is over 17,000,000; the average daily attendance, over 12,000,000; the number of teachers, about 500,000; buildings used for school purposes, over 260,000; value of public school property, $945,000,000; total revenue, about $382,000,000; total expenditure, $371,500,000.

Finances.— The net ordinary receipts of the government aggregate nearly $670,000,000; net ordinary expenditure, $660,000,000, of which the War Department costs about $157,000,000, the Navy Department, $123,000,000, pensions, $161,000,000, and interest on the public debt, $21,350,000. The public debt, less cash in the treasury, exceeds $1,046,500,000; the amount of money of all kinds in circulation, $3,119,750,000; and the per capita of circulation is about $34.50.

Population.— The following table shows the population of the Continental United States according to each decennial census.

Year.	Population.	Year.	Population.
1790	3,929,214	1860	31,443,321
1800	5,308,483	1870	38,558,371
1810	7,239,881	1880	50,155,783
1820	9,638,453	1890	62,947,714
1830	12,866,020	1900	75,994,575
1840	17,069,453	1910	91,972,266
1850	23,191,876		

The following table shows the population of each of the States and Territories in 1910 and the increase since 1900:

States and Territories.	Population, 1910.	Increase since 1900.
Alabama	2,138,093	309,396
Alaska	64,356	764
Arizona	204,354	81,423
Arkansas	1,574,449	262,885
California	2,377,549	892,496
Colorado	799,024	259,324
Connecticut	1,114,756	206,336
Delaware	202,322	17,587
District of Columbia	331,069	52,351
Florida	751,139	222,597
Georgia	2,609,121	392,790
Idaho	325,594	163,822

States and Territories.	Population, 1910.	Increase since 1900.
Illinois	5,638,591	817,041
Indiana	2,700,876	184,414
Iowa	2,224,771	*7,082
Kansas	1,690,949	220,454
Kentucky	2,289,095	142,731
Louisiana	1,656,388	274,763
Maine	742,371	47,905
Maryland	1,295,346	107,302
Massachusetts	3,366,416	561,070
Michigan	2,810,173	389,191
Minnesota	2,075,708	324,314
Mississippi	1,797,114	245,844
Missouri	3,293,335	186,670
Montana	376,053	132,724
Nebraska	1,192,214	125,914
Nevada	81,875	39,540
New Hampshire	430,572	18,984
New Jersey	2,537,167	653,498
New Mexico	327,301	131,991
New York	9,113,614	1,844,720
North Carolina	2,206,287	312,477
North Dakota	577,056	257,910
Ohio	4,767,121	609,576
Oklahoma	†1,657,155	†866,764
Oregon	672,765	259,229
Pennsylvania	7,665,111	1,362,996
Rhode Island	542,610	114,054
South Carolina	1,515,400	175,084
South Dakota	583,888	182,318
Tennessee	2,184,789	164,173
Texas	3,896,542	847,832
Utah	373,351	96,602
Vermont	355,956	12,315
Virginia	2,061,612	207,428
Washington	1,141,990	623,887
West Virginia	1,221,119	262,319
Wisconsin	2,333,860	264,818
Wyoming	145,965	53,434
Total	91,972,266	15,977,691

* Decrease.

† Since Nov. 16, 1907, includes the former Indian Territory, which had a population of 392,060 in 1900.

Including the population of the Philippine Islands (census of 1903), 7,635,426; Hawaii (1910), 191,909; Porto Rico (1910), 1,118,012; persons in military and naval service abroad, 55,608; and estimates for Guam, Samoa and the Panama Canal zone, there was a total of about 101,100,000 under the flag.

Government.— The form of government of the United States is based on the Constitution of Sept. 17, 1787, to which 10 amendments were added Dec. 15, 1791; an 11th amendment, Jan. 8, 1798; a 12th amendment, Sept. 25, 1804; a 13th amendment, Dec. 18, 1865; a 14th amendment, July 28, 1868; and a 15th amendment, March 30, 1870. By the Constitution the government of the nation is intrusted to three separate authorities, the Executive, the Legislative, and the Judicial. The executive power is vested in a President, who holds his office during the term of four years, and is elected, together with a Vice-President chosen for the same term, in the mode prescribed as follows: "Each State shall appoint, in such manner as the Legislature thereof may direct, a number of electors, equal to the whole number of senators and representatives to which the State may be entitled in the Congress; but no senator or representative, or person holding an office of trust or profit under the United States, shall be appointed an elector." The Constitution enacts that "the Congress may determine the time of choosing the electors, and the day on which they shall give their votes, which day shall be the same throughout the United States"; and further, that "no person except a natural-born citizen, or a citizen of the United States at the time of the adoption of this Constitution, shall be eligible to the office of President; neither shall any person be eligible to that office who shall not have attained the age of 35 years, and been 14 years a resident within the United States." The President is commander-in-chief of the army and navy and of the militia in the service of the Union. He has the power of a veto on all laws passed by Congress; but, notwithstanding his veto, any bill may become a law on its being afterward passed by each House of Congress by a two-thirds vote. There is a popular belief that the President may not go beyond the limits of the country during his tenure of office. While there is no law to this effect, it has been customary for Presidents to "stay at home," a notable recent exception being President Taft's call on President Diaz, of Mexico, just across the border in 1909. The Vice-President is ex officio President of the Senate. The presidential succession is fixed by chapter 4 of the acts of the 49th Congress, 1st session. In case of the removal, death, resignation, or inability of both the President and Vice-President, then the Secretary of State shall act as President till the disability of the President or Vice-President is removed or a President is elected. If there be no

Secretary of State, then the Secretary of the Treasury will act; and the remainder of the order of succession is: Secretary of War, Attorney-General, Postmaster-General, Secretary of the Navy, and Secretary of the Interior (the office of Secretary of Agriculture and the office of Secretary of Commerce were created after the passage of the act). The acting President must, on taking office, convene Congress, if not at the time in session, in extraordinary session, giving 20 days' notice. This act applies only to such Cabinet officers as are eligible under the Constitution to the presidency. The following is a list of the Presidents since the inauguration of the government:

No.	Name.	Qualified.
1	George Washington	April 30, 1789
	George Washington	March 4, 1793
2	John Adams	March 4, 1797
3	Thomas Jefferson	March 4, 1801
	Thomas Jefferson	March 4, 1805
4	James Madison	March 4, 1809
	James Madison	March 4, 1813
5	James Monroe	March 4, 1817
	James Monroe	March 5, 1821
6	John Quincy Adams	March 4, 1825
7	Andrew Jackson	March 4, 1829
	Andrew Jackson	March 4, 1833
8	Martin Van Buren	March 4, 1837
9	William H. Harrison	March 5, 1841
10	John Tyler	April 6, 1841
11	James K. Polk	March 4, 1845
12	Zachary Taylor	March 5, 1849
13	Millard Fillmore	July 9, 1850
14	Franklin Pierce	March 4, 1853
15	James Buchanan	March 4, 1857
16	Abraham Lincoln	March 4, 1861
	Abraham Lincoln	March 4, 1865
17	Andrew Johnson	April 15, 1865
18	Ulysses S. Grant	March 4, 1869
	Ulysses S. Grant	March 4, 1873
19	Rutherford B. Hayes	March 5, 1877
20	James A. Garfield	March 4, 1881
21	Chester A. Arthur	Sept. 20, 1881
22	Grover Cleveland	March 4, 1885
23	Benjamin Harrison	March 4, 1889
24	Grover Cleveland	March 4, 1893
25	William McKinley	March 4, 1897
	William McKinley	March 4, 1901
26	Theodore Roosevelt	Sept. 14, 1901
	Theodore Roosevelt	March 4, 1905
27	William H. Taft	March 4. 1909
28	Woodrow Wilson, President-Elect.	

The Congress.—The whole legislative power is vested by the Constitution in a Congress, consisting of a Senate and House of Representatives. The Senate consists of two members from each State, chosen by the State Legislatures for six years. Senators must be not less than 30 years of age; must have been citizens of the United States for nine years; and be residents in the States from which they are chosen. Besides its legislative capacity the Senate is invested with the power of confirming or rejecting all appointments to office made by the President, and its members constitute a High Court of Impeachment. The judgment in the latter case extends only to the removal from office and disqualification. Representatives have the sole power of impeachment. The House of Representatives is composed of members elected every second year, by the vote of all male citizens over the age of 21 of the several States of the Union, who are qualified in accordance with the laws of their respective States. By the 15th Amendment to the Constitution, neither race nor color affects the rights of citizens. The franchise is not absolutely universal; residence for at least one year in most States (in Michigan and Maine three months) is necessary; in some States the payment of taxes, in others registration. Untaxed Indians and Chinese are excluded from the franchise; in most States convicts, in some States duelists and fraudulent voters; in Massachusetts voters are required to be able to read English. Certain Southern States have recently adopted restrictions on suffrage intended to exclude negroes from voting without violating the Constitution as amended. The number of members to which each State is entitled is determined by the census taken every ten years. Under the census of 1890 the total number of Representatives was fixed at 357; and under that of 1900, Congress in January, 1901, fixed the number at 391, the act to take effect on March 3, 1903.

Following is a list of Speakers of the House of Representatives since the organization of Congress:

Years.	Name.	State.
1789-1791	F. A. Muhlenburg	Pa.
1791-1793	Jonathan Trumbull	Ct.
1793-1795	F. A. Muhlenburg	Pa.
1795-1799	Jonathan Dayton	N. J.
1799-1801	Theo. Sedgwick	Mass.
1801-1807	Nathaniel Macon	N. C.
1807-1811	Joseph B. Varnum	Mass.
1811-1814	Henry Clay	Ky.
1814-1815	Langdon Cheves	S. C.
1815-1820	Henry Clay	Ky.
1820-1821	John W. Taylor	N. Y.
1821-1823	Philip P. Barbour	Va.

Years.	Name.	State.
1823-1825	Henry Clay.....	Ky.
1825-1827	John W. Taylor.....	N. Y.
1827-1834	Andrew Stevenson....	Va.
1834-1835	John Bell.....	Tenn.
1835-1839	James K. Polk.....	Tenn.
1839-1841	R. M. T. Hunter.....	Va.
1841-1843	John White.....	Ky.
1843-1845	John W. Jones.....	Va.
1845-1847	John W. Davis.....	Ind.
1847-1849	Robert C. Winthrop..	Mass.
1849-1851	Howell Cobb.....	Ga.
1851-1855	Linn Boyd.....	Ky.
1855-1857	Nathaniel P. Banks...	Mass.
1857-1859	James L. Orr.....	S. C.
1859-1861	Wm. Pennington.....	N. J.
1861-1863	Galusha A. Grow.....	Pa.
1863-1869	Schuyler Colfax.....	Ind.
1869-1875	James G. Blaine.....	Me.
1875-1876	Michael C. Kerr.....	Ind.
1876-1881	Samuel J. Randall....	Pa.
1881-1883	John W. Keifer.....	Ohio.
1883-1889	John G. Carlisle.....	Ky.
1889-1891	Thomas B. Reed.....	Me.
1891-1895	Charles F. Crisp.....	Ga.
1895-1899	Thomas B. Reed.....	Me.
1899-1903	David B. Henderson..	Ia.
1903-1911	Joseph G. Cannon.....	Ill.

Speaker Cannon was re-elected to Congress in 1910, but lost the office through the Democratic ascendency in 1911.

History.— The territories now occupied by the United States of America, though they were probably visited on their N. E. coast by Norse navigators about the year 1000, continued the sole possession of numerous tribes of Indians till the rediscovery of America by Columbus in 1492. In 1498 an English expedition, under the command of Sebastian Cabot, explored the E. coast of America, from Labrador to Virginia, perhaps to Florida. In 1513 Juan Ponce de Leon landed near St. Augustine, Fla., and explored a portion of that region in a romantic search for the Fountain of Youth. In 1520 some Spanish vessels from San Domingo were driven upon the coast of Carolina. In 1521, by the conquests of Cortez and his followers, Mexico, including Texas, New Mexico, and California, became a province of Spain. In 1539–1542 Ferdinand de Soto led a Spanish expedition from the coast of Florida across Alabama, and discovered the Mississippi river. In 1584–1585 Sir Walter Raleigh sent two expeditions to the coast of North Carolina and attempted to form settlements on Roanoke Island. A Spanish settlement was made at St. Augustine, Florida, in 1565; Jamestown, Va., was settled in 1607; New York, then called the New Netherlands, in 1613; Plymouth, Mass., in 1620. A large part of the country on the Great Lakes and on the Mississippi was explored by La Salle in 1682; and settlements were made by the French at Kaskaskia and Arkansas Post in 1685, and at Mobile and Vincennes in 1702.

The first effort at a union of colonies was in 1643, when the settlements in Massachusetts, New Hampshire, Rhode Island, and Connecticut formed a confederacy for mutual defense against the French, Dutch, and Indians under the title of "The United Colonies of New England." In 1761 the enforcement of the Navigation Act against illegal traders, by general search warrants, caused a strong excitement against the English government, especially in Boston. The British admiralty enforced the law; and many vessels were seized, and the colonial trade with the West Indies was annihilated. In 1765 the passing of an act of Parliament for collecting a colonial revenue by stamps caused general indignation, and led to riots. Patrick Henry, in the Virginia Assembly, denied the right of Parliament to tax America, and eloquently asserted the dogma, "No taxation without representation." The first impulse was to unite against a common danger; and the first Colonial Congress of 29 delegates, representing nine colonies, made a statement of grievances and a declaration of rights. In 1766 the Stamp Act was repealed, but the principle of colonial taxation was not abandoned. In 1773 the duties were repealed, excepting 3d. a pound on tea.

It was now a question of principle, and from N. to S. it was determined that this tax should not be paid. Some cargoes were stored in damp warehouses and spoiled; some sent back, and in Boston a mob disguised as Indians threw it into the harbor. England then determined to enforce the government of the crown and Parliament over the colonies, and a fleet with 10,000 troops was sent to America, which led to the battle of Lexington, and the beginning of the Revolutionary War, April 19, 1775. The news that the British troops had been

compelled to beat a hasty retreat summoned 20,000 men to the vicinity of Boston. A Congress of the colonies assembled at Philadelphia and appointed George Washington Commander-in-Chief of an army of 20,000 men. The battle of Bunker Hill was fought at Charlestown, June 17, 1775, between 1,500 Americans, who had hastily entrenched themselves, and 2,000 British soldiers. When the Americans had exhausted their ammunition they were ordered to retreat; but as they had only lost 115 killed, 305 wounded, and 32 prisoners, while the loss on the British side was at least 1,054, the encounter had all the moral effect of a victory. After a winter of great privations the British were compelled to evacuate Boston, carrying away in their fleet to Halifax 1,500 loyal families. An army of 55,000 men, including 17,000 German mercenaries (Hessians), was sent under the command of Sir William Howe to put down this "wicked rebellion."

On June 7, 1776, Richard Henry Lee, of Virginia, offered a resolution in Congress, declaring that the united colonies "are, and ought to be, free and independent States; that they are absolved from all allegiance to the British crown; and that all political connection between them and the State of Great Britain is, and ought to be, totally dissolved." This resolution was adopted by the votes of 9 out of 13 colonies, and brought about the celebrated "Declaration of Independence," which on July 4, 1776, received the assent of the delegates of the colonies. They adopted the general title of the "United States of America," with a population of about 2,500,000. From the battle of Lexington, April 19, 1775, to the surrender of Yorktown, Oct. 19, 1781, in 24 engagements, including the surrender of two armies, the British losses in the field were not less than 25,000 men, while those of the Americans were about 8,000.

After the peace, concluded Sept. 3, 1783, the independence of the United States was acknowledged by foreign powers, and in 1787 the present Constitution was ratified. George Washington and John Adams, standing at the head of the Federalist party, were elected President and Vice-President of the United States. The War of 1812 grew out of the fact that England declined to put a stop to the abuse of impressing American citizens into the British navy, the attention of Congress having been called to 6,000 instances in 1811. In 1814 the Federalists of New England held a convention at Hartford in opposition to the war and the administration of President Madison, and in self-defence, threatened a secession of the New England States. See HARTFORD CONVENTION. The war was terminated by the treaty of Ghent, Dec. 24, 1814, though the English suffered a disastrous defeat at New Orleans, Jan. 8, 1815, nearly a month after peace had been concluded between England and America. The Democratic-Republican party having brought the war to a satisfactory conclusion, the Federalists disappeared; and in 1817 James Monroe was elected to the presidency.

At the period of the Revolution slavery existed in all the States except Massachusetts, but it had gradually been abolished in the Northern and Middle States, except Delaware, and excluded from the new States between the Ohio and the Mississippi rivers by the terms on which the territory had been surrendered by Virginia to the Union. The two sections had already entered on a struggle to maintain the balance of power against each other. After an exciting contest in 1820 Missouri was admitted with a resolution (the "Missouri Compromise") that in future no slave State should exist N. of the parallel of lat. 36° 30′ N. In 1826 two of the founders of the Republic, John Adams and Thomas Jefferson, died on July 4, the anniversary of the Declaration of Independence. In 1832 an Indian war, called the Black Hawk War, broke out in Wisconsin; but the passing of a high protective tariff act by Congress caused a more serious trouble. The State of South Carolina declared the act unconstitutional. A collision seemed imminent, when the affair was settled by a compromise bill, introduced by Henry Clay, providing for a gradual reduction of duties till 1843, when they should not exceed 20 per cent., ad valorem. In 1835 the Seminole War broke out in Florida, and a tribe of Indians, insignificant in numbers, under the crafty leadership of Osceola,

kept up hostilities for years at a cost to the United States of several thousand men, and some $50,000,000.

In 1837 Martin Van Buren succeeded General Jackson in the presidency. His term was a stormy one, from the great financial crisis of 1837, which followed a period of currency expansion and wild speculation. All the banks suspended payment, and the great commercial cities threatened insurrection. In 1840 General William H. Harrison was elected President, but died in 1841, a month after his inauguration. He was succeeded by John Tyler, during whose administration the N. E. boundary question, which nearly occasioned a war with England, was settled by Daniel Webster, Secretary of State, and Lord Ashburton. In 1845 Texas was formally annexed to the United States, and James K. Polk, of Tennessee, succeeded Mr. Tyler in the presidency. M. Almonte, the Mexican minister at Washington, protested against the annexation of Texas as an act of warlike aggression, which brought about the Mexican War in 1846.

In 1847 the Mexicans were defeated by General Taylor at Buena Vista; Vera Cruz was taken by storm, and Gen. Scott won the great battle of Cerro Gordo. In 1848 peace was signed, and by the treaty of Guadaloupe the United States obtained the cession of New Mexico and Upper California, the United States paying Mexico $15,000,000, and assuming the payment of the claims of American citizens against Mexico. In 1849, General Taylor, the "Rough and Ready" victor of Buena Vista, became President, with Millard Fillmore as Vice-President. In September of the same year California adopted a constitution which prohibited slavery. The election of Franklin Pierce in 1852 against General Scott was a triumph of the Democratic States' Rights and Southern party. A brutal assault on Charles Sumner, United States Senator from Massachusetts, by Preston Brooks, in consequence of a violent speech on Southern men and institutions, increased the excitement of both sections. In 1856 the Republicans, composed of the Northern Free-soil and Abolition parties, nominated John C. Fremont for the presidency, but James Buchanan, the Democratic candidate, received the election, with John C. Breckinridge as Vice-President. In October, 1859, John Brown, known in Kansas as "Ossawatomie Brown," who planned and led an expedition for freeing the negroes in Virginia, was captured, and executed Dec. 2, by the authorities of Virginia. His body was taken to his home in New York for burial, and he was regarded by the Abolition party as a martyr.

In 1860 the Southern delegates withdrew from the convention at Charleston, and two Democratic candidates were nominated, Stephen A. Douglas and John C. Breckinridge. The Republicans nominated Abraham Lincoln, and at the election of November, 1860, Mr. Lincoln received every Northern vote in the electoral college, except three of New Jersey, 180 votes. The South lost no time in acting on what her statesmen had declared would be the signal of their withdrawal from the Union. Four years of civil war ended in their being compelled to remain in it. In 1864 Mr. Lincoln was reëlected, and on March 4, 1865, commenced his second term, with Andrew Johnson as Vice-President. On April 14, 1865, while the North was rejoicing over the capture of Richmond and the surrender of the Confederate armies, the President was assassinated at a theater in Washington by John Wilkes Booth. The assassin was pursued and killed, and several of his accomplices were tried and executed. Andrew Johnson became President. Jefferson Davis, President of the Confederacy, fled after the surrender of Richmond; he was captured in Georgia, and released without trial in 1867.

An amendment to the Constitution forever abolishing slavery in the States and Territories of the Union was declared ratified by two-thirds of the States, Dec. 18, 1865. The vast change in the organization of the republic made by this new fundamental law was completed by the 14th and 15th Amendments, passed in 1868 and 1870, which gave to the former slaves all the rights and privileges of citizenship. The seceded States were readmitted to the Union on condition of their adhesion to the Constitution as

thus amended. Owing to the reconstruction policy after the Civil War, differences arose between President Johnson and Republican leaders in both houses of Congress. This antagonism finally led to the resolution of the House of Representatives, passed Feb. 24, 1868, to impeach the President "of high crimes and misdemeanors." President Johnson, however, was acquitted, as the prosecution lacked one vote of the two-thirds vote necessary for conviction. Gen. Ulysses S. Grant was elected President in 1868, and inaugurated March 4, 1869, with Schuyler Colfax as Vice-President. He was elected in 1872 for a second term with Henry Wilson as Vice-President. The Geneva Court of Arbitration gave its decree in favor of the United States in 1872, while the San Juan Boundary dispute with Great Britain was settled in favor of the United States by the Emperor of Germany in the same year. The outrages of a secret organization known as the Ku-Klux-Klan, in the Southern States, necessitated the passing of an act in 1871 giving cognizance of such offences to the United States courts.

The year 1876, memorable in the annals of the republic as the 100th anniversary of the Declaration of Independence, was celebrated by a great Centennial Exhibition at Philadelphia. The presidential election of the same year was so closely contested that Congress appointed a special tribunal, selected from the Senate, the House of Representatives, and the justices of the Supreme Court, to examine the election returns. The decision was in favor of Rutherford B. Hayes, the Republican candidate, who was declared to have been elected President, and inaugurated March 4, 1877. In 1879 specie payments were resumed throughout the United States, after a suspension of 17 years. In 1880 the Republican National Convention at Chicago nominated Gen. James A. Garfield, of Ohio, and Chester A. Arthur, of New York, for President and Vice-President. The Democratic National Convention was held in Cincinnati, O., and Gen. Winfield S. Hancock and William H. English, of Indiana, were selected as candidates. The result of the election was in favor of the Republicans. General Garfield was inaugurated March 4, 1881. On July 2, 1881, he was shot by a disappointed office-seeker, Charles J. Guiteau, and after more than two months of suffering died from the effects of the wound at Elberon, N. J., Sept. 19, 1881. His loss was lamented by the whole nation. He was succeeded by Vice-President Chester A. Arthur, who served the remainder of the term.

In 1884 the Democratic party nominated Grover Cleveland and Thomas A. Hendricks for the presidency and vice-presidency, while the Republicans put up James G. Blaine and John A. Logan. The election resulted in the choice of Grover Cleveland and Thomas A. Hendricks, who were inaugurated March 4, 1885. The death of General Grant, on July 23, 1885, was a notable event, and one that profoundly moved the whole nation. Mr. Hendricks died Nov. 25, 1885, and John Sherman, by virtue of his election as president pro tem. of the Senate, became his successor. Mr. Cleveland's administration was in the main uneventful, though the country was disturbed by widespread and obstinate conflicts between labor and capital. The silver coinage question, the reform of the civil service, the Mormon question, the labor problem, and the Pan-Electric controversy were the issues of the hour. The presidential compaign of 1888 had the tariff question for its main issue. Mr. Cleveland was renominated by the Democracy, with Allan G. Thurman for Vice-President, and Benjamin Harrison, of Indiana, grandson of the ninth President of the United States, and Levi P. Morton for Vice-President, were nominated by the Republicans. The latter were elected, the electoral vote standing 233 to 168. In 1889 four new States were added to the Union, namely, Montana, North Dakota, South Dakota, and Washington, and the Territory of Oklahoma was carved out of the Indian Territory. In 1890 Wyoming and Idaho were admitted to statehood.

In 1892 Mr. Harrison was renominated by the Republicans for President, and Whitelaw Reid, of New York, for Vice-President. The Democrats nominated Mr. Cleveland for President, and Adlai E. Stevenson, of Illinois, for Vice-President. Cleveland and Stevenson were elected by an

electoral vote of 277 for the ticket, against 145 for Harrison and Reid, and 22 for Weaver, the candidate of the People's party. The year 1893 was memorable for the monetary depression and hard times throughout the United States, and, to some extent, all over the world. Many thousands of men were out of employment; many financial institutions and business enterprises failed. Almost every form of security depreciated. A great railway strike, accompanied by much destruction of property and some loss of life, occurred on roads centering in Chicago; and others of less magnitude elsewhere. An army of unemployed men made a demonstration by marching across the country, subsisting on popular charity as they went, to the city of Washington, where they hoped to influence legislation by Congress, and action by the executive, to relieve the unemployed. This condition of things was popularly attributed to the administration, and to the Democratic tariff bill that had not yet been substituted for the McKinley bill, but was sure to be passed. As a consequence, in the State and Congressional elections of 1894 the Republicans obtained sweeping victories, and came into power in Congress. The administration was otherwise marked by its maintenance of friendly relations with Spain against the belligerent urgency of a large anti-Spanish party, friendly to Cuban independence; by the extension of civil service reform; and by the Arbitration Treaty of 1897.

The presidential campaign of 1896 was an unusually exciting one, with seven tickets in the field: Republican, William McKinley and Garret A. Hobart; Democratic, William J. Bryan and Arthur Sewall; Peoples', William J. Bryan and Thomas E. Watson; Prohibition, Joshua Levering and Hale Johnson; National Democratic, John M. Palmer and Simon B. Buckner; Social Labor, Charles H. Matchett and Matthew Maguire; and National (Free-Silver Prohibition), Chas. E. Bentley and James H. Southgate. In the election the Republican candidates received 7,104,779 popular and 271 electoral votes, and the fused Democratic and Peoples' candidates 6,502,925 popular and 176 electoral votes. This campaign was characterized by a revolt in the Democratic party and a fusion of that party with the Populist.

The great event of this administration was the war successfully waged by the United States against Spain, in 1898; the freeing of Cuba from Spanish dominion; the acquisition by the United States, as a result of the war, of Porto Rico, the Philippine Islands, and Guam, and, by treaty, of Hawaii and the Samoan island of Tutuila; and the growth of the anti-expansion sentiment.

In the presidential campaign of 1900 there were eight tickets in the field: Republican, William McKinley and Theodore Roosevelt; Democratic, William J. Bryan and Adlai E. Stevenson; Prohibition, John G. Woolley and Henry B. Metcalf; Middle-of-the-Road or Anti-Fusion Peoples', Wharton Barker and Ignatius Donnelly; Social Democratic, Eugene V. Debs and Job Harriman; Social Labor, Joseph F. Malloney and Valentine Remmel; United Christian, J. F. R. Leonard and John G. Woolley; and Union Reform, Seth H. Ellis and Samuel T. Nicholas. The Republican candidates were elected with a majority of 849,790 votes. On Sept. 6, 1901, while attending the Pan-American Exposition in Buffalo, N. Y., President McKinley was shot twice by Leon Czolgosz, an anarchist, and died from his injuries on the 14th. Immediately thereafter Vice-President Roosevelt took the oath of office as President.

In the presidential campaign of 1904 there were six tickets in the field, viz: the Republican, bearing the names of Theodore Roosevelt and Charles W. Fairbanks; the Democratic, headed by Alton B. Parker and Henry G. Davis; the Socialist, with Eugene V. Debs and Benjamin Hanford; the Prohibition, with Silas C. Swallow and George W. Carroll; the Populist, with Thomas E. Watson and Thomas H. Tibbles; and the Social Labor, with Charles H. Corrigan and William W. Cox. The Republican candidates were elected by a popular plurality of 2,545,515 votes and an electoral majority of 226 The most conspicuous features of President Roosevelt's seven-year administration were his persistent warfare on trusts and illegal combinations, his efforts to conserve the natural resources of the country, and

his successful measures to bring about a termination of the Russo-Japanese war, for which he was awarded the Nobel Peace Prize.

In the campaign of 1908 there were seven tickets in the field, viz: the Republican, headed by William H. Taft and James S. Sherman; the Democratic, by William J. Bryan (third time) and John W. Kern; the Socialist, by Eugene V. Debs (third time) and Benjamin Hanford; the Prohibition, by Eugene W. Chaffin and Aaron S. Watkins; the Populist, by Thomas E. Watson and Samuel Williams; the Social Labor, by August Gillhaus and Donald L. Munro; and the Independent, by Thomas L. Hisgen and John T. Graves. The Republican candidates again won, this time by a popular plurality of 1,269,804 votes and an electoral majority of 159.

The early part of President Taft's administration was marked by a rising storm of insurgency in his party in Congress, aided by alleged arbitrary acts by the Speaker of the House of Representatives. The disaffection spread rapidly and widely, and culminated in the various State ections in 1910 in changing the party strength in the House of Representatives from a Republican majority of 47 to a Democratic majority of 66, and in reducing the Republican majority of 28 to 10 in the Senate — all in the 62d Congress (1911–1913).

In January, 1911, the State Department announced that a complete agreement had been reached on the long-pending fisheries question between Canada, Newfoundland, and the United States, which would render it unnecessary to submit the controversy to The Hague Court of Arbitration. In the same month the chairman of the House Committee on the Census introduced the customary bill for the reapportionment of the House of Representatives based on the census of 1910, increasing the membership of the House from 391 (under the census of 1900) to 433, and fixing the new ratio of representation at 1 to 211,800, instead of 1 to 194,182. In the same month also a reciprocity agreement between the United States and Canada was negotiated at Washington and sent simultaneouly to the America Congress and the Canadian Parliament for ratification. This measure was regarded as the most important one of an international character that had been brought to the debating stage in many years. As soon as its terms became known it drew forth heated arguments pro and con in the United States, Canada, and Great Britain, British alarmists predicted that the measure, if ratified, would lead to the eventual annexation of Canada by the United States, an opinion that President Taft promptly repudicated, declaring that commercial reciprocity only was sought. In the United States there was a widespread feeling, especially in agricultural sections, that the agreement would work a hardship for the farmer in cheapening all farm products. Public opinion, however, as concentrated in the British and Canadian Parliaments and the United States House of Representatives, early took a favorable view of the measure. The former practically went on record as favoring the agreement by a vote of 324 to 222 (Feb. 9); in the Canadian Parliament a motion to delay consideration was defeated and the Minister of Finance announced that the agreement would be ratified (the same day); and the United States House of Representatives ratified it by a vote of 221 to 92 (Feb. 14).

Another measure that elicited much comment in official international circles early in 1911 was the projected fortification of the entrances to the Panama Canal. In the United States it was claimed that fortifications were necessary for the safe-guarding of a property that had cost so many millions. On the other hand it was urged in foreign countries that the canal should be thoroughly neutralized.

On Feb. 21, President Taft sent to the Senate a new treaty with Japan, from which the obnoxious immigration clause had been eliminated, and the Senate ratified it on the 24th. On the 23d of the same month the Interstate Commerce Commission decided against the railroads in the freight rate cases.

The four dominant nations are the foregoing — omitting France. Of these the United States has outstripped all but Russia in population, and its rate of increase for another century at least will be greater than that of any European country. But the rate of the increase of population is important less in itself than for what it signifies. England and Germany are not self-maintaining in food products and can never become so. They must depend on the United States, and later, perhaps, on South America. The United States, therefore, has the prodigious economic advantage of supplying its own food, of helping to feed Europe and at the same time of sharing with England and Germany the world's trade in manufactured wares — an economic advantage that will be the chief factor in determining the relative national power of these several nations in the future. A country that cannot produce its own food supply must perforce become a manufacturing country; but it is forced also to maintain sea power to protect the food ships that feed it. In other words, Germany, which has already outgrown the agricultural possibility of maintaining its population, will develop, as England has developed, as a manufacturing, food-importing country. Leaving Russia out, no country in the world has the economic advantages that we have, nor the independent position for the coming centuries as far as economics dare look.

The significance of our changed relation to the world at large is seen by superimposing upon the area of the United States the area of the leading industrial nations of Europe — Austria-Hungary, France, Germany, and Great Britain, exclusive of the colonial possessions of the latter — and observing how small a portion of the Union any one of them covers. The mere preponderance of size might mean little, so far as international weight and influence are concerned, if it were not for the fact that our recent acquisitions of outlying dependencies happen to be such as compel us to assert ourselves as a world power, and at the same time provide us with the means of consolidating our new and constantly enlarging interests in other lands. But a few years ago the United States was confined to the North American continent; today it has a great stake in the Pacific and holds the gateway to the Gulf of Mexico and the Caribbean Sea. The construction of an Isthmian canal, connecting the Atlantic and the Pacific, which has long been advocated for purely economic reasons, takes on a new and vastly increased importance as the logical corollary of our enlarged sphere of action. Now that we have planted ourselves in the Gulf of Mexico and in the Pacific, it is obvious that the shortest means of communication between our possessions becomes a matter of political as well as of commercial gravity. And while our insular acquisitions may seem to have been largely fortuitous and unintentional, it is becoming more and more apparent that they fit in naturally with what is destined to be the future course of our expansion. Asia and South America are inevitably the goals to which our commercial activity will sooner or later tend, and the Pacific slope and the cotton States of the South are already fully awake to the importance to them of the proposed Isthmian canal, and of Porto Rico, Hawaii and the Philippines as necessary way stations to vast undeveloped markets for their products.

Our Natural Advantages.—In comparing the United States with the other great powers, we must also take into account the overwhelming superiority of our natural resources. There is no country in Europe which approaches us in variety or volume of products of the soil, the forest, the mine, and all the industrial nations are more or less dependent on us for the raw material for their manufactures, as well as for food supplies. Nature is, in fact, most lavish with us, the range of our natural wealth, covering nearly everything that is necessary to industrial activity as well as to human sustenance in both the temperate and tropic zones.

Given these natural advantages, with a busy, restless, inventive people, and it was inevitable that sooner or later the time would come when we should cease to be satisfied with merely domestic interests and would begin to look abroad for a wider exercise of our energies. The time came even before the Spanish War. We had long since reached the limit of continental

expansion, except at the cost of gratuitous aggressions upon our neighbors, Canada and Mexico. Though we were far from having occupied all our territory, in the sense of reducing it to tillage, and still had plenty of elbow room in the West, we were suffering from a sense of restraint, a vague feeling that we were not exerting ourselves to the full extent of our powers. For a long time we had been in the habit of regarding ourselves as a great people, but we felt that we were doing but little to impress this fact on the rest of the world.

In the meantime we had unconsciously been equipping ourselves for the role we were destined to play. Our very absorption in the task of internal development, of the most effective utilization of our natural resources, of building up a vast fabric of industrial efficiency, was the best of all preparations for a triumphant entry upon the great world-stage of international competition. Economy of production as the result of cheap and abundant raw materials, the application of machinery and labor saving tools to almost every form of mechanical effort, the invention of improved processes and methods of manufacture, and above all, the superior industry, ingenuity and adaptability of our artisans and operatives, were gradually brought to a point of perfection which has thus far defied all rivalry or imitation. Without knowing it, we were fashioning the master key that was to unlock for us the markets of the world and thus provide a new channel for the national instinct of expansion, the national dream of greatness to be seen and admired of all.

Our Industrial Growth.— Let us now contrast the industrial growth of the United States, as indicated by its export trade, with that of other countries. In 1860 Great Britain's exports of manufactures exceeded ours by more than $570,000,000. In 1890 our exports of manufactures amounted in round numbers to $151,000,000, and those from the United Kingdom were over $1,000,000,000. In 1900 our exports of manufactures were nearly 11 times as great as in 1860, while those of Great Britain had not quite doubled. In 1860 they were about $610,000,000; in 1899, $1,091,000,000 —a gain of $481,000,000.

The rapidity with which the United States was gaining on Great Britain was already apparent several years ago, and attention was called to our industrial progress in a memorandum by Sir Courtenay Boyle, Secretary of the British Board of Trade, which was presented to Parliament Jan. 28, 1897. His conclusion at that time was that while the United Kingdom was still greatly ahead of either the United States or Germany in its power of manufacturing for export, each of the latter countries, "beginning from a lower level," was "for the moment, traveling upward more rapidly than we are, who occupy a much higher eminence." Since then our progress has continued at a swifter pace, notwithstanding the interruption of the Spanish War and the subsequent growth of consumption at home.

A comparison of total exports shows that the United States stands second only to the United Kingdom, and falls behind even that great industrial country to the extent of only some $330,000,000. Of course our agricultural exports are still the great factor of this preponderance in foreign trade; but, as has been shown, the exports of manufactures are now considerably more than one-fourth of the total and are constantly growing.

Our exports exceed those of Germany with her splendidly organized industrial activity, by nearly $300,000,000. Her total exports are nearly $984,000,000, as contrasted with our total of $432,000,000 of exports of manufactured goods alone. France falls still further behind us than Germany, her total of exports being about $753,000,000.

Remarkable advance from 1870 to 1902.— The year 1870 seems to have marked the beginning of a new order of things in the producing power of this country. From 1790 to 1870 imports exceeded exports by nearly $2,000,000,000. Since 1870 exports have exceeded imports by over $5,000,000,000. Since 1870 the production of corn has gone from 1,000,000,000 bushels to over 2,000,000,000; wheat from 235,000,000 to 535,000,000; cotton from 3,000,000 bales to over 10,000,000 bales; the value of farm products from $2,447,000,000 to $5,739,000,000; the production of petroleum from 220,-

000,000 gallons to 660,000,000; of coal from 33,000,000 tons to 260,000,000 tons; pig iron from less than 2,000,000 to over 15,000,000; and steel from 70,000 tons to over 13,000,000 tons.

Meantime the railways of the country have grown from 53,000 miles to over 230,000 miles. The money in circulation has increased from $675,000,000 to $2,260,000,000. The number of persons engaged in manufacturing has increased from 2,000,000 to over 5,500,000, and their earnings from $775,000,000 to $2,735,000,000, the capital employed from a little over $2,000,000,000 to about $13,000,000,000, and the value of the manufactured products from $4,250,000,000 to about $15,000,000,000.

The result of these developments has been that the United States has advanced to the head of the list of exporting nations. In 1870 England, Germany and France exceeded the United States in their exports. In 1901 the United States exceeded them. The principal requirements of man are food, clothing, heat, light, and manufactures, and of these the United States is the world's greatest producer. They are supplemented by invention, communication, transportation, finance, and energy.

The genius of the American inventor is universally recognized. The number of patents issued in the United States since 1870 is half as great as the number issued in all the rest of the world during that time. The United States has more miles of railway than all Europe put together, and two-fifths of the mileage of the world. We have twice as many miles of telegraph as any other country, twice as many post-offices, twice as many newspapers, and send more telephone messages than all Europe combined.

The meaning of all this is that commerce must continue to expand. We hear threats of the exclusion of our products and rumors of European combinations against the United States, but neither experience nor the logic of the situation indicates that this will be realized. For years we have heard of legislation against American meats. Yet exports of provisions were 50 per cent. greater in 1901 than in 1890, and those of 1902 showed a still greater increase, being the largest in the history of our foreign commerce.

The growth of exports of manufactures has been so pronounced as to indicate that in this field the United States will be able to compete with Europe in both quality and price. In 1901 Europe took over 50 per cent. of our exports of manufactures, 90 per cent. of our exports of agricultural products, and 60 per cent. of all others. The field for growth here is large. We supply now only about 15 per cent. of the total imports of European countries, 10 per cent. of those of Asia and Oceanica, 10 per cent. of those of South America, and 5 per cent. of Africa.

In tropical products we have been hitherto absolutely dependent on other countries. We import enormous quantities of sugar, coffee, tea, cocoa, and rice. Imports of rubber and silk also reach enormous figures. Imports of tropical and subtropical products have trebled since 1870. This clearly indicates that we should seek to pay in the products of our fields and factories for the increasing millions of tropical products which we import and must continue to import.

Furthermore, a great amount of products of this kind can now be produced by American citizens using American capital in Porto Rico, Hawaii, and the Philippine Islands. The Hawaiian Islands have increased their producing power more than twenty-fold since we annexed them commercially by the reciprocity treaty of 1876, and have also increased their consumption of our products twenty-fold. In the four years since the American flag was hoisted in Manila, exports to the Philippine Islands have increased ten-fold, and those to Asia and Oceanica have doubled.

Our Consular Service.—We have worked out most intelligently the special problems of economy of production and the use of capital, and have shown ourselves to be most efficient in the development of our natural resources, but is was not until recent years that we realized the necessity of applying scientific methods to all the branches of our activity. By a consular service of experts furnishing valuable periodical reports, we have created an intelligent development of our export trade.

United States, Trade of the. The people of the United States have

sold to the rest of the world in the last seven years, goods worth more than $3,413,000,000 more than they purchased.

In settling the enormous trade balance against them, using both gold and silver as a basis of settlement, foreigners paid to Americans less than one per cent., or to be exact, 8-10ths of one per cent. While it is true they took away, they also drained us — bullion value — of more than $172,000,000 in silver, or about eighty-two per cent. of the aggregate amount of silver produced in the United States during the time covered by the trade transactions, so that the net balance paid was only $29,510,867 for something like $3,500,000,000 worth of merchandise. The excess of sales over purchases is shown in this table:

1897	$286,263,124
1898	615,432,267
1899	529,874,813
1900	544,541,898
1901	664,592,826
1902	378,398,419
1903	394,387,476
Total	$3,413,491,230

Although we sold in 1900 and 1903 almost a billion dollars' worth of merchandise more than we purchased — $938,929,374 — it was followed by more than $47,000,000 of gold and silver more than we received. Tables taken from United States Treasury reports tell the story:

Excess of gold receipts over shipments:

1897	$ 44,653,200
1898	104,985,283
1899	51,432,517
1901	12,866,010
1902	3,452,304
Total	$217,389,314

Gold shipments exceeded receipts in 1900 $3,693,575, and in 1903 $2,108,468, making a total of $5,702,043. This left a net gold balance of $211,687,271.

While there was a gain of something above two hundred millions in gold, there was a loss nearly as great in silver.

Excess of silver shipments over receipts:

1897	$31,413,411
1898	24,177,458
1899	25,643,999
1900	21,455,973
1901	27,898,659
1902	21,500,136
1903	20,086,768
Total	$172,176,404
Gain in gold	201,687,271
Loss in silver	172,176,404
Net balance	$ 29,510,867

GOLD PRODUCTION.

1897	$ 57,363,000
1898	64,463,000
1899	71,053,400
1900	79,171,000
1901	78,666,700
1902	80,000,000
*1903	39,200,000
Total	$469,917,100

SILVER PRODUCTION.

1897	$32,316,000
1898	32,118,000
1899	32,859,760
1900	35,741,400
1901	33,128,000
1902	29,415,000
*1903	14,730,000
Total	$210,308,160
Loss by excess exportation	172,176,404
Net balance	$38,131,756

*Estimate for six months.

The amount of silver used in the arts and sciences cannot be ascertained with any degree of accuracy, but it undoubtedly is many millions of dollars. The Treasury tables show that between production and exportation there is left in the country each year about $5,400,000, an amount, experts believe, much below the amount required for home consumption.

Although the increase in the stock of gold by importation is small when compared to the surplus of merchandise sold, yet it has enabled the country to retain its entire gold production, which in the aggregate amounts to between four and five hundred millions of dollars, which, added to the amount of foreign gold, makes a tidy sum.

A comparison of the statements issued by the Treasury Department on July 1, 1897, and July 1, 1903, of Treasury gold holdings and coin in circulation, will show how much of the gold increase has been used for money and how much for other purposes.

Gold coin in circulation, including coin and bullion held by the United States, was:

Treasury in 1897	$ 696,239,016
Gold production 1897 to 1903.	469,917,100
Gained in imports 1897 to 1903	201,687,271
Total amount of gold, July 1, 1903	1,367,843,387

Amount in circulation.....	621,545,146
In Treasury.....	623,460,467
	$1,252,731,990
Balance	115,111,397

This statement shows that with the stock of gold, on hand in 1897, with the foreign increase, all except a little more than one hundred and fifteen millions of dollars, is either in circulation or held by the United States Treasury. The daily statement issued by the Treasury shows that on September 30 the money gold had increased $33,568,533 since July 1, 1903.

Business men who have trade relations with each other, at the end of certain periods of time, settle their accounts by the one who sold less than he bought, paying to the other the difference in cash. In Wall street, where transactions run into millions every hour, daily settlement is made through the clearing house. This system is also employed in all large cities.

Different monetary systems, tariff duties and other causes force the business interests of each country to combine, so that when making a balance sheet of the world's commerce, each nation is a unit and is treated as such. The power of government is exerted in its behalf. If the action of one government prevents the entrance of a certain kinds of goods coming from another there is quick appeal to Kaiser, King or President to redress the injury.

The United States Treasury, as soon as possible after the end of the fiscal year — June 30 — issues reports in detail, giving an account of the nation's dealings with the rest of the world. It would seem to any one who looked over the reports just now being issued, and noted only the credits of this country in striking balances with other countries, that the people of the United States ought to have in their possession about all the gold and silver in the world, but an analysis reveals the fact that they have barely kept even. When Treasury officials are questioned in regard to the matter and asked to explain their invariable reply is that they cannot explain it unless there has been a call and redemption of securities formerly held abroad.

Sales over the purchases give the United States an annual credit of about $500,000,000. If the experts who keep track of the ebb and flow in the volume of money invested in this country by foreign residents are right, then the United States owes about four billions of dollars.

During 1906 standards unparalleled in commercial history were established; $2,000,000,000 of grain were harvested; 11,346,000 bales of cotton ginned; $320,000,000 was estimated for live stock; $2,000,000,000 of minerals and metals mined; 4,000,000,000 tons of coal; 145,000,000 barrels of petroleum drawn from the wells; 682,428,530 pounds of tobacco, 57,145,959 tons of hay, and $183,000,000 in dairy products were other items of the yield of over 6,000,000,000 acres of farm land under cultivation; $3,000,000,000 was the value of food products, and the national wealth was computed at $100,000,000,000. The protection of trade interests is being met by legislative acts to increase the army and navy.

Universalist Church, a communion holding the doctrine that all men, and also the devil and fallen angels, will be forgiven and will enjoy eternal happiness. This belief is very ancient, and passages implying it may be found in the works of Origen and his followers, Gregory of Nyssa, Chrysostom, etc. It is also said to have constituted part of the creed of the Lollards, Albigenses, and Waldenses. The Universalists ground their reasons for their doctrine in the love of God, who, they say, is only angry with sin, not the sinner, and therefore if the sinner repents even after death his repentance will restore him to God's favor. The sovereignty of God will be finally vindicated by the ultimate harmony of the moral universe, and the submission of all things in heaven and earth to His righteous will. When righteousness is triumphant peace and happiness will prevail; till then pain and suffering will be instruments to work out the will of God. Universalism is better known as a distinct sect in the United States than in England. In 1827 a division arose among the American Universalists concerning punishment after death, some asserting it to be limited, while others denied it altogether. Some separated from the main body and called themselves "The Massachusetts Association of Restoration-

ists." Most of them afterward joined the Free-Will Baptists or the Unitarians, while the others returned to the main body. In 1840 the whole sect divided into two, the Impartialists and the Restorationists. But Universalism is also held by many members of other sects, and practically by all Theists strictly so called. The reports of the Universalist Church in the United States show: Ministers, 724; churches, 776; members, 61,158.

Universal Prime Meridian, in astronomy, the meridian of Greenwich, adopted at an International Conference of scientific men, held at Washington, D. C., in 1883.

Universal Time, in astronomy, a method of reckoning time for international purposes, agreed on by the International Conference, held at Washington, D. C., in 1883. Universal time is reckoned from mean noon at the Universal Prime Meridian, the day commencing at midnight, and divided into 24 (instead of into two portions of 12) hours each.

Universities, though offering analogies to Greek and Roman schools, trace their historic continuity no further than the 12th, or, at the most, 8th century A. D. Their germs must be sought in the Karoling schools of France, the Palatine, and Italy, and the Saracen schools of Bagdad and Cordova, in such distinctively Professional institutes as Salerno's of medicine, Bologna's of Roman law, and in the Paris lecture rooms of the early schoolmen, Abelard, Roscelin, and William of Champeaux. One science attracts another, and so fresh faculties were added to arts, to medicine, or to law; teaching begets instructors, and these received their stamp of fitness in degree. Through gradual development from within, aided by charters of kings and Popes from without, schools grow into universities — corporations, that is, of teachers and scholars, though later interpreted "places of universal study."

Among the universities and colleges in the United States of which there are more than 500 conferring degrees, the following are the most important: Harvard, Cambridge, Mass., founded 1638; William and Mary, Williamsburg, Va., 1693; Yale, New Haven, Conn., 1700; Princeton, Princeton, N. J., 1746; Columbia, New York city, N. Y., 1754; University of Pennsylvania, Philadelphia, 1785; Brown University, Providence, R. I., 1764; Dartmouth, Hanover, N. H., 1769; Rutgers, New Brunswick, N. J., 1770; Wesleyan, Middletown, Conn., 1830; Johns Hopkins, Baltimore, Md., 1876; Amherst, Amherst, Mass., 1821; Williams, Williamstown, Mass., 1793; University of Michigan, Ann Arbor, 1841; Dickinson, Carlisle, Pa., 1783; Washington and Lee, Lexington, Va., 1749; University of Virginia, Charlottesville, 1825; Cornell University, Ithaca, N. Y., 1868; Union, Schenectady, N. Y., 1795; Bowdoin, Brunswick, Me., 1798; Trinity, Hartford, Conn., 1823; University of California, Oakland, 1855; University of Chicago, Chicago, Ill., 1891; Leland Stanford, Jr., California, 1891; and Vanderbilt, Nashville, Tenn., 1875.

University Extension. The American Society for the Extension of University Teaching was founded at Philadelphia, in June, 1890, and incorporated in March, 1892. The office is in Philadelphia, Pa. The aim of university extension is: (1) To extend higher education to all classes of people. (2) To extend education through the whole of adult life. (3) To extend thorough methods of study to subjects of every-day interest. From Philadelphia the movement has extended into many sections of the country, being established mainly, however, in connection with colleges and universities.

University of the South, an educational institution in Sewanee, Tenn.; founded in 1868 under the auspices of the Protestant Episcopal Church.

University Settlements, houses in the poor districts of cities where educated men and women live and come in contact with the poorer classes for social, educational, and civic purposes. These settlements provide clubs, and offer a home and recreation for poor workers. Children are taken care of and have many amusements, all with a view to waken in them a desire for better things and right living. The first settlement in the United States was founded in New York city Sept. 1, 1889, by the grad-

nates of several women's colleges. The building, at No. 95 Rivington Street, is located in one of the most crowded tenement districts of the East Side. In the same month a settlement called Hull House was opened in Chicago. On May 14, 1891, another settlement was organized in New York by the graduates of Yale, Columbia, Princeton, and other universities. In October of the same year the graduates of Andover Theological Seminary and other ex-collegians began a similar work in the tenement district of Boston. There are settlements, besides those mentioned, in Brooklyn, Buffalo, Jersey City, Hartford, Philadelphia, Cleveland, Cincinnati, Pittsburg, St. Louis, San Francisco, and many other cities; numbering altogether nearly 500. In 1891 the College Settlements Association was formed, with the purpose of uniting all college women and their friends, who were interested in settlement work.

Unleavened Bread, in Church history, bread used in the Roman Church for the celebration of mass and the administration of the Eucharist. The Greeks use leavened bread. In the English Church the rubric directs that the bread "shall be such as is usual to be eaten," and an attempt to revive the use of unleavened bread has been declared illegal.

Unlimited Liability, liability to be called on to pay a proportionate share of the entire losses of an unsuccessful company in which one has shares. Joint-stock banks and insurance companies are generally constituted on this basis, but the widespread ruin brought in certain cases on the shareholders has led to many of them being transformed into limited liability companies in States where this can legally be done.

Upanishads, in Sanskrit literature, a name given to a series of treatises or commentaries on the Vedic hymns, the contents of which are partly ritualistic, partly speculative. They are of different dates, some of them being as old as several centuries B. C.

Upas, a tree common in the forests of Java, and of some of the neighboring islands, and found also in tropical Africa. It is a species of the genus Antiaris (A. toxicaria), natural order Artocarpaceæ. Many exaggerated stories were formerly current concerning the deadly properties of this plant. The upas tree yields "antjar," a poisonous secretion containing strychnine. The smallest wound by an arrow tipped with this poison is fatal.

Upchurch, John Jorden, an American mechanic; born in Franklin co., N. C., March 26, 1822. In 1868 he entered the machine shops of the Atlantic and Great Western railroad at Meadville, Pa. While there he organized the Ancient Order of United Workmen and drew up its first ritual. The lodge was formed with 14 members on Oct. 27, 1868. In 1902 it had spread to every State and Territory of the United States and had 420,000 members. In 34 years of its existence it distributed about $112,044,000 in benefits. "Father" Upchurch, as he was called later, settled in Steelville, Mo., where he died Jan. 18, 1887.

Upfold, George, an American clergyman; born in Sheneley Green, England, May 7, 1796; settled in the United States in 1804; and was graduated at Union College in 1814 and at the College of Physicians and Surgeons, New York city, in 1816. In the following year he began the study of theology and was ordained in the Protestant Episcopal Church in July, 1820; was rector of St. Luke's Church, New York, in 1822–1830; became rector of Trinity Church, Pittsburg, in 1831. He was consecrated first bishop of Indiana in December, 1849. He died in Indianapolis, Ind., Aug. 26, 1872.

Upham, Charles Wentworth, an American author; born in St. John, New Brunswick, May 4, 1802; was graduated at Harvard College in 1821, and at its Divinity School in 1824; was member of Congress in 1853–1855. His publications include: "Lectures on Witchcraft, comprising a History of the Salem Delusion, 1692"; "Life of Sir Henry Vane"; etc. He died in Salem, Mass., June 14, 1875.

Upham, Grace Le Baron, an American author; born in Lowell, Mass., June 22, 1845; was educated in Boston, Mass. In February, 1870, she married Henry Macy Upham. She

became identified with the Daughters of the American Revolution, the Daughters of 1812, the Huguenot's Society of America, the Society of the Mayflower Descendants, the Boston Authors' Society, etc.

Upham, Samuel Foster, an American clergyman; born in Duxbury, Mass., May 19, 1834; was graduated at Wesleyan University in 1856; entered the ministry the same year; spent 25 years in the pastorate in the leading charges of New England; received the degree of D. D. in 1872, and LL. D. in 1889; became Professor of Practical Theology in Drew Seminary in 1880. Died in 1904.

Upham, Warren, an American geologist; born in Amherst, N. H., March 8, 1850; was graduated at Dartmouth College in 1871; served on the geological survey of Minnesota in 1879–1885, and on the United States Geological Survey in 1885–1895. He then became secretary and librarian of the Minnesota Historical Society in St. Paul. His publications include "The Glacial Lake Agassiz"; etc.

Upjohn, Richard, an American architect; born in Shaftesbury, England, Jan. 22, 1802. He removed to the United States in 1829 and settled in New Bedford, Mass. In 1833 he went to Boston and aided in making the designs for the city court house. He removed to New York in 1839 to direct the alterations in Trinity Church, but these were abandoned on a proposal being entertained for the erection of a new edifice. He drew the plans for this edifice, which was completed in 1846 and was then considered the handsomest church structure in conception and detail in the United States. He was also the architect of the Church of the Ascension, the Church of the Holy Communion, and others in New York city, and of the Church of the Pilgrims and Grace Church in Brooklyn. His civic architecture was chiefly that of Italian renaissance, while his domestic buildings include numerous varieties of style. He died in Garrison's, N. Y., Aug. 16, 1878.

Upper Iowa University, a coeducational institution in Fayette, Ia.; founded in 1857 under the auspices of the Methodist Episcopal Church.

Upshur, Abel Parker, an American statesman; born in Northampton co., Va., June 17, 1790. In 1841, he was appointed Secretary of the Navy by President Tyler. Two years later, on the resignation of Daniel Webster, he was appointed Secretary of State. Early in 1844 he was on the United States steamer "Princeton," on the Potomac river, in company with the President and other members of the cabinet, to witness experiments with a large wrought-iron gun which burst, and mortally wounded him together with several others. He died near Washington, D. C., Feb. 28, 1844.

Upshur, John Henry, an American naval officer; born in Northampton co., Va., Dec. 5, 1823; was graduated at the United States Naval Academy in 1848. At the outbreak of the Civil War he was assigned to the South Atlantic blockading squadron, where he remained till 1862, when he was detailed to duty with the North Atlantic fleet, in which capacity he took part in the capture of Fort Fisher in January, 1865. He commanded the New York Navy Yard in 1882–1884, and in the latter year was promoted rear-admiral and ordered to the command of the naval forces of the Pacific; was retired in May, 1885.

Upson, Anson Judd, an American educator; born in Philadelphia, Pa., Nov. 7, 1823; was graduated at Hamilton College in 1843; in 1890 became vice chancellor of the University of the State of New York; and in 1892 chancellor. Died 1902.

Upton, Emory, an American military officer; born in Batavia, N. Y., Aug. 27, 1839; was graduated at the United States Military Academy in May, 1861. He participated in the battle of Bull Run and in the Peninsula Campaign early in 1862. In March, 1865, he was brevetted Major-General, U. S. A., was promoted Lieutenant-Colonel, U. S. A., in July, 1866. He originated a system of military tactics which were adopted by the government in 1867; was superintendent of the United States Military Academy in 1870–1875; and was promoted colonel, U. S. A., in 1880; and was assigned to the 4th artillery in San Francisco, Cal. His publications include: "A New System of Infan-

try Tactics"; "Tactics for Non-Military Bodies"; "The Armies of Asia and Europe"; and "The Military Policy of the United States." He died in San Francisco, Cal., March 14, 1881.

Upton, Jacob Kendrick, statistician and author; born in Wilmot, N. H., Oct. 9, 1837; was educated at the Literary and Scientific Departments of Columbia University, and in 1866 the degree of LL. B. was conferred on him by its Law School. He became connected with the United States Treasury Department, was assistant secretary under Secretaries Sherman, Windom, and Folger. In 1895 he was attached to the United States Life-Saving Service. Died 1902.

Upton, Winslow, an American astronomer; born in Salem, Mass., Oct. 12, 1853; was graduated at Brown University in 1875. In 1883 he was made Professor of Astronomy at Brown University, and became dean there in 1899. He was a member of the United States Eclipse Expedition in 1878 and 1883; and served at the Southern Station of Harvard Observatory in Arequipa, Peru, in 1896-1897; he published the "Star Atlas" (1896); etc.

Uræmia, in pathology, a disease caused by the retention of urea and other noxious substances in the kidneys and bladder, followed by blood poisoning. It is produced by any cause which prevents the periodical excretion of the urine, and is a most dangerous malady.

Urania, in mythology, one of the Muses, daughter of Jupiter and Mnemosyne; she presided over astronomy. She is represented as a virgin; with a crown of stars, draped in garments spangled with stars, holding in her left hand a celestial globe. In astronomy, an asteroid.

Uraninite. See RADIUM.

Uranus, in astronomy, one of the superior planets between Saturn and Neptune. It was not known to the ancients. When Sir William Herschel, after the construction of his great reflecting telescope, was systematically examining with it all the stars above a certain magnitude, he, on March 13, 1781, found in the constellation Gemini a star which he recognized as having a disk which the others had not. He took it for a comet, and other contemporary astronomers held the same view. Some months afterward as its motions were traced, the opinion arose that it was a planet, and in January, 1783, La Place laid before the Academy of Science, at Paris, calculations relating to its elliptic orbit which established beyond a doubt that this opinion was correct. Its diameter is about 31,700 miles — about four times that of the earth, its bulk about 64 times as great; but being of light material its weight is only 15 times as great. It has been reasoned out from analogy rather than proved by actual observation that it rotates, but the time of this rotation is wholly unknown. Its distance from the sun is about 1,800,000,000 miles, and it travels once around the orbit in about 87 years. It receives only about one three-thousandth part of the light and heat from the sun which fall on the earth. It is attended by at least four satellites — Ariel, Umbriel, Titania, and Oberon. Their orbits all lie in the same plane, and are at right angles to the path of the planet itself — a circumstance not known in the case of any other planet.

Urban, the name of eight popes: Urban I., succeeded Calixtus I., in 222, and suffered martyrdom in 230. Urban II. (Odo of Lagny); born in Chatillon Sur-Marne, France, about 1042; succeeded Victor III. in 1088. He caused Guibert, who had been supported as anti-pope under the title of Clement III., to be driven out of Rome; preached the first crusade in 1095, and convoked the councils of Bari, Clermont, and Rome. He died in Rome, July 29, 1099. Urban III., (Herbert Crivelli), archbishop of Milan, was successor of Lucius II., and was elected to the papal chair in 1185. He endeavored to send assistance to the Christians in the East, who were being sorely pressed by Saladin; but his death took place before he could effect his object. He died in France, Oct. 20, 1187. Urban IV., became Pope in succession to Alexander IV., in 1261. He excommunicated Manifred, King of Naples, and offered the crown to Charles, Count of Provence and Anjou, and brother to Louis IX.,

of France, which led to the subsequent wars of the Anjous for the possession of Sicily and Naples. He died in Orvieto, Italy, Oct. 2, 1265. Urban V., succeeded Innocent VI. in 1362. He restored the papal seat from Avignon to Rome, founded many churches, and reformed numerous abuses. He died in Avignon, France, Dec. 16, 1370. Urban VI. (Bartholomew Prignano), succeeded Gregory XI., in 1378. The cardinals afterward chose Robert of Geneva, who took the name of Clement VII., and took up his residence in Avignon. Thus was originated the famous "Western Schism," which endured for nearly 50 years. He died in Rome, Oct. 15, 1389. Urban VII. succeeded Sixtus V. in 1590, but died in less than a fortnight afterward, Sept. 28, 1590. Urban VIII. (Maffeo Barberini) born in 1568, ascended the pontifical throne in 1623. He condemned the Jansenists, revised the hymns of the Roman Catholic Church, and was the author of some Latin and Italian poems. Died in Rome, July 29, 1644.

Urda, the Hindustani language, as spoken by the Mohammedan population of India. It is really the Hindu language, which is of the Aryan family, with a number of Persian, Arabic, and Turkish words introduced into it, though the inflections of nouns and verbs remain unaltered. It is now the language most largely used by Europeans in their intercourse with the natives of India. It has a literature, chiefly historic, which arose under the Mogul emperors, commencing with Akbar (1556–1605).

Urim, in Hebrew antiquities, literally, lights; but the Septuagint translators make it apparently a plural of excellence, in which case it would signify light. Used specially in the compound term Urim and Thummim, believed to mean light and perfection. Many conjectures have been hazarded as to their nature, but the subject still remains very obscure. They were to be put "on the breastplate of judgment," and on or over the heart of the high priest when he specially entered into the presence of Jehovah.

Urine, the secretion of the kidneys, the chief fluid excretion of man and of the higher animals. Healthy human urine is a transparent light amber-colored liquid, having a saline taste, a peculiar aromatic odor, an acid reaction, and a density varying from 1.010 to 1.025. The urine contains the liquid portion of useless and noxious residuum left after the assimilation of whatever is useful to the structure.

Ursa Major, in astronomy, the Great Bear, the most conspicuous of the 20 ancient northern constellations, its seven leading stars attracting notice all the more conspicuously that there is a certain absence of visible heavenly bodies in the adjacent parts of the sky. The Semitic conception of the constellation was that it resembled a bier with mourners walking behind, and it has sometimes been called specifically Lazarus' bier, the four stars constituting a four-sided figure being the bier and the other three, Mary, Martha, and Mary Magdalene, the mourners. It is much like a plow, and is often called the Plow, the rectangle constituting its body, and the three projecting stars its handle. To other minds it suggests a vehicle, whence it has been called the Car of David, and sometimes Charles' Wain, or Wagon. The four stars standing together are the wheels, and the three behind are the shaft. Another name is the Dipper. But astronomers cling to the old classical conception of a bear, of which the four stars, Alpha, Beta, Gamma, Delta, Ursæ Majoris, are the hind quarter, and the three the tail. The remaining portions of the animal are marked out by sundry small stars of the third and fourth magnitude.

Ursa Minor, in astronomy, the Little Bear; one of the 20 ancient northern constellations, bounded by Draco, Camelopardalis, Cassiopeia, and Perseus. Its contour is marked out by seven stars. The curvature of the tail is in the contrary direction to that of the Great Bear, and at its tip is a star of the second magnitude, the Pole Star.

Ursinus College, a coeducational institution in Collegeville, Pa.; founded in 1869 under the auspices of the German Reformed Church.

Ursula, St., the heroine of a very curious legend of the Middle Ages,

whose origin may be ascribed to the 12th century, and which runs as follows: Deonatus, King of Britain, had a very beautiful and pious daughter named Ursula. She was sought in marriage by the heathen prince Holofernes. His suit was granted, but under the following conditions — the prince must become a Christian, and wait for three years while the bride-elect went with her companions on a pilgrimage to Rome. The suitor was immediately baptized under the name of Ætherius, and Ursula set out with 11 vessels, in each of which there were 1,000 companion virgins. The company crossed the sea and sailed up the Rhine as far as Basel, from thence they proceeded overland to Rome, where they were honorably received by Pope Cyriakus. The pious and gallant pontiff, along with a multitude of dignified ecclesiastics, accompanied his fair guests a great part of the return journey, and according to some accounts even shared in the final destruction that suddenly overtook the band; for as they were about to land at Koln they were set on by a horde of heathen Huns, by whom they were all slaughtered. Ursula was at first reserved as a bride for Etzel, the Hun king, but on her steadfast refusal of the offer she was transfixed by an arrow, and thus she is represented in mediæval art. But the bloody deed was no sooner accomplished than 11,000 celestial warriors appeared, who completely routed the Huns and freed Koln. The citizens buried the unhappy maidens with pious care by the Rhine, held afterward sacred, and there too Clematius, a Greek pilgrim, built a church in their honor.

Ursulines, members of one of those religious orders which resulted from the rise in the Roman Church of the evangelical zeal which was so remarkable a reflex effect of the Reformation. Angela or Angelica Merici (1470–1540), a poor maiden of Desenzano, was their founder. She began in that town, and continued afterward in Brescia, the education of poor children. At the grave of Varallo at Milan, a favorite resort of pilgrims, she was inspired with the determination to found a new religious order, and at the celebration of the mass in the St. Afra Church at Brescia, on Nov. 25, 1535, the order, as a free union without binding vows, was solemnly inaugurated and named in honor of St. Ursula.

Uruguay, a republic of South America; bounded on the N. and N. E. by Brazil, E. and S. E. by the Atlantic Ocean, S. by the Rio de la Plata and W. by the Uruguay, which last-named rivers separate the state from the Argentine Confederation. Uruguay has an extreme length of 350 miles by a breadth of 320; area, 72,110 square miles; pop. 840,725. The republic is divided into 19 provinces, of which six have been formed since 1880; and the chief towns are, Montevideo (the capital), Maldonado, Colonia, and San Jose.

The coast to the N. of Cape Santa Maria is low and sandy, but S. and W. of it, and on the estuary of the Plata, it is more bold and indented, presenting some fine bays and harbors. The most important rivers in the interior are the Rio Negro, with its numerous affluents, and the Arapey, Daiman, Yaguaron, and Sebollati. The greater portion of the surface consists of an elevated plateau, penetrated by many fertile valleys along the S. coast line. The surface of this tableland presents a series of extensive plains, traversed by occasional ranges of hills of no great elevation, the whole being almost destitute of trees. The climate is remarkably mild and salubrious. The minerals are copper, potter's earth, and umber. The soil is generally rich and fertile. Wheat, maize, barley, rice, pulse, flax, hemp, cotton, and sugar are the products. Fruits are produced in abundance.

Among the wild animals are the tapir, deer, ounce, monkey, paca, rabbit, and fox; and large packs of wild dogs roam over the plains. There are also many varieties of birds and water fowl. Vast droves of horses and horned cattle run wild on the pampas, the latter furnishing the jerked and salted beef, tallow, hides, horns, and hair, which constitute the great bulk of the exports of the country. The imports of the republic are principally from the United States and Great Britain. In 1898 there were 1,080 miles of railroads, and 4,380 miles of

telegraph in operation. The national debt was $106,646,800.

Theoretically, the constitution of Uruguay is liberal and representative, but, like the majority of the South American States, it has degenerated into a mere military despotism, and the president, usually some general, who has achieved success by violence or intrigue, in reality possesses almost abolute power. The established religion is Roman Catholic; other forms of worship are, however, tolerated. The inhabitants are chiefly Creoles of Spanish descent, the Indians and negroes being a comparatively small number.

Usher, an officer who has the care of the door of a court, hall, chamber, or the like. Their service is customary in American churches, at weddings, and in places of amusement. In the royal household of Great Britain there are four gentlemen ushers of the privy chamber. The Gentleman Usher of the Black Rod is an officer of the Order of the Garter; the Usher of the Green Rod, an officer of the Order of the Thistle.

Usury, an excessive or exorbitant interest or premium paid, or stipulated to be paid, for the loan of money. Also the practice of lending money at interest; the practice of taking interest for money lent; specifically, the practice of taking exorbitant or excessive interest for the loan of money; the practice of exacting interest in an exorbitant way from needy or extravagant borrowers. In the ancient world interest was always usurious, as it is in the East at the present day. The Mosaic Law prohibited taking interest from Hebrews, and Christ's words, "Give to him that asketh thee," seem to be of still wider application.

Utah, a State in the Western Division of the North American Union; bounded by Wyoming, Colorado, Arizona, Nevada, and Idaho; admitted to the Union, Jan. 4, 1898; number of counties, 27; capital, Salt Lake City; area, 84,928 square miles; pop. (1900) 276,749; (1910) 373,351.

The surface of Utah is similar to a basin surrounded by high mountains. The interior has an elevation of 4,000 feet above sea-level, and is crossed in a N. E. and S. W. direction by the Wasatch Mountains with an altitude of 12,000 feet. E. of the Wasatch Mountains are the Uintah, near the Wyoming boundary, and W. are numerous detached hills, ridges, and isolated mountains. Lofty plateaus occupy the S. E. The principal rivers are the Green and Grand, uniting in the S. E. to form the Colorado. Nearly all the others empty into the Great Salt Lake, or similar salt lakes with no outlets, which occur throughout the W. of the State. The Great Salt Lake is about 80 miles in length and has an average width of 40 miles; its waters are salt, and it has no communication with the ocean. Utah contains part of the great canyon of the Colorado, and has the Great American Desert, an extensive sandy and waterless plain W. of the Great Salt Lake.

The rocks are most primitive, of Archæan origin, and showing everywhere evidences of volcanic action. Limestone of carboniferous deposit is found in many ridges. Granite, gneiss, jasper, syenite, porphyry, quartz, serpentine, gypsum, marble, calcareous spar, and sandstones occur in large quantities throughout the State. Iron ores, coal, gold, and silver, copper, zinc, salt, asphaltum, and borax form the principal mineral resources.

The soil is as a rule arid and sandy, and in many places so impregnated with salt as to be entirely useless. Much, however, has been reclaimed by irrigation and rendered profitably productive. In the highland portion of the State rainfall is sufficient for cultivation and the mountains and high valleys produce an abundance of fine grass, in consequence of which stock raising and dairy farming have been greatly developed.

There were reported by the United States census in 1900, 1,669 manufacturing establishments. The principal manufactures were beet sugar, railroad cars, flour and grist, packed meat, printing and publishing, woolen goods, bread and other bakery products, foundry and machine shop products, preserved and canned fruits, malt liquors and leather goods. Salt Lake City is the principal manufacturing center.

In 1900 children of school age numbered 89,818; the enrollment in public

schools was 73,042; and the average daily attendance, 50,595. There were 705 public school buildings. For higher education there were 4 public high schools, 12 private secondary schools, 2 public and 2 private normal schools, the Brigham Young College at Logan, and the Sheldon Jackson College, Salt Lake College, and University of Utah, at Salt Lake City.

The strongest church denominations in the State are the Church of Jesus Christ of Latter-day Saints; Roman Catholic; Methodist Episcopal; Protestant Episcopal; Presbyterian, North; and Congregational. In 1899 there were reported 135 Evangelical Sunday-schools, with 800 officers and teachers, and 8,500 scholars.

The governor of the State is elected for a term of four years and receives a salary of $4,000 per annum. Legislative sessions are held biennially and are limited in length to 60 days each. The Legislature has 18 members in the Senate, and 45 in the House, each of whom receives $4 per day. There is one Representative in Congress.

The region embracing Utah was acquired from Mexico in 1848, and the Territory was organized in 1850, comprising Utah, Colorado, Wyoming, and Nevada. The Mormons led by Brigham Young settled in Salt Lake valley in 1847, and rapidly occupied the fertile valleys of the Territory, few Gentiles settling there till the extension of railroads made it more easily accessible. At a later period the Gentile population rapidly increased, and vigorously opposed the supremacy of the Mormons, who controlled all government positions. A bill passed by Congress in 1882 disfranchised all polygamists and annulled the act of the Territorial Legislature extending the franchise to women. In 1887 a bill was passed, which confiscated the property of the Mormon Church and the Perpetual Emigration Fund, with the exception of the church buildings and parsonages, and devoted it to the support of public schools in the Territory. The Mormons renounced polygamy in 1890. For a considerable time previously efforts had been made to have Utah admitted into the Union; but this was not acceptable to Congress till after the abolition of polygamy. A bill was passed in December, 1893, making Utah a State. It was not finally consummated till Jan. 4, 1896, when it became the 45th State of the Union.

Utahs, or **Utes,** a tribe of American Indians of the Shoshone family, living in Utah and California.

Uterus, in comparative anatomy a dilation in the walls of the oviduct for the preservation or development of the ova. In human anatomy, a hollow, muscular organ, with very thick walls, situated in the pelvic cavity, between the rectum and the bladder. Its chief function is to receive the ovum from the Fallopian tubes, and to retain and support it during the development of the fœtus, which it expels at parturition.

Utica, city and capital of Oneida county, N. Y.; on the Mohawk river, Erie canal, and Lackawanna and other railroads; 95 miles N. W. of Albany; is the center of a large dairying, hop-growing, and cheese-making section; manufactures cotton and woolen goods, clothing, farm implements, boots and shoes, furnaces, and foundry products; is popularly known as the "City of Charities;" and is the seat of the largest insane asylum in the State, Masonic Home, Federal Building, several high-grade schools, and numerous hospitals and "homes." Pop. (1910) 74,419.

Utica, an ancient city of North Africa; 20 miles N. W. of Carthage; originally founded as a Phœnician colony in 1101 B. C. Its ruins include an amphitheater, an aqueduct, and the remains of quays; for a bay then carried the sea (now nearly 10 miles distant) to the site. During the third Punic war Utica submitted to Rome, and became the capital of the province of Africa. Afterward it was the see of a bishop, till its destruction by the Arabs.

Utilitarianism, that theory of life which represents happiness as the only ultimate end to be desired and sought after — not necessarily the happiness of the individual, but that of the human race as a totality.

Utopia, the name given by Sir Thomas More to the imaginary is-

land which he makes the scene of his famous political romance "The Ideal Republic, which is the New Island of Utopia." More represents this island as having been discovered by Raphael Hythloday, a companion of Amerigo Vespucci, but it of course is England, the capital Amaurote, London. Its laws and institutions are represented as described in one afternoon's talk at Antwerp, occupying the whole of the second book, to which, indeed, the first serves but as a framework. More's romance, or rather satire, obtained a wide popularity, and supplied (though incorrectly enough) the epithet Utopian to all impracticable schemes for the improvement of society.

Utraquists. See CALIXTINES.

Utrecht, an important town of Holland, capital of a province of the same name, 23 miles south-east of Amsterdam. It is pleasantly situated on the Old Rhine, is traversed by two canals crossed by numerous stone bridges, and is surrounded by strong forts. The town is well built, and has several squares, promenades, a government house, a Protestant cathedral (a fine Gothic building), mint, handsome town-hall, palace of justice, etc. Educational establishments include a well-equipped university, a veterinary school, musical college, and schools for drawing and architecture. Utrecht is the central point of the Dutch railway system, and carries on an extensive trade in grain and cattle, and in the manufactures of the place, which include Utrecht velvet, carpets, floor-cloth, cottons, linens, chemicals, etc. Utrecht is the oldest town of Holland, and was called by the Romans Trajectum ad Rhenum, that is, "Ford of the Rhine," later Ultra-trajectum. Pop. (1900) 106,800. The province of Utrecht has an area of 532 square miles, with a pop. of 226,847. It is generally flat, is well watered by the Rhine, Vecht, Amstel, etc., and is better suited for dairy-farming and stock-rearing than for corn-growing.

Utrecht, Peace of, a series of separate treaties agreed on at Utrecht, in Holland, by the powers which had been engaged in the war of the Spanish Succession. On April 11, 1713, the States-General, Prussia, Portugal, and Savoy, signed separate treaties with France. The emperor refused to accede to the peace, and his differences with France were subsequently adjusted by the treaties of Rastadt and Baden in 1714. By the treaty with England, France, among other things, recognized the Hanoverian succession, engaged never to unite the crowns of France and Spain, and ceded to England Nova Scotia, Newfoundland, St. Kitt's and Hudson Bay and Straits. Gibraltar and Minorca were also ceded on behalf of Spain. Holland retained the Spanish Netherlands till a barrier treaty was arranged with Austria. Louis XIV. recognized the title of the King of Prussia, who received a part of Spanish Guelderland, and the sovereignty of Neufchatel in Switzerland, while renouncing the principality of Orange. Savoy and Nice were restored to the Duke of Savoy, who was recognized as presumptive heir to the Spanish monarchy, and received the title of king. Philip V. was not recognized till the conclusion of these treaties, but France treated for Spain, and formal treaties corresponding with those with France were afterward signed with that power.

Utrera, a town of Spain, province of Seville, 18 miles S. E. of the city of Seville. It has a fine Gothic church and a Moorish palace. Pop. 15,093.

Uxmal, an ancient Indian town of Yucatan, Central America, about 35 miles S. W. of Merida. It is now an extensive group of ruins.

Uz, in the Old Testament, a region probably lying to the east or south-east of Palestine, known as the scene of the story of Job.

V, the 22d letter, and the 15th consonant of the English alphabet. It represents a labial or labiodental consonant sound, and is produced by the junction of the lower lip and upper teeth, as in ov, eve, vain. The sound of v differs from that of f, which is produced in the same way, in being voiced, while that of f is breathed. Both v and f are also continuous consonants, and also belong to the class of the spirants.

V as a symbol is used: (1) As a numeral: For 5, and with a dash over it for 5,000. (2) In chemistry: For the element vanadium. (3) In heraldry: For vert, in the tricking of arms with a pen and ink. (4) In law: For versus (Latin = against); as, John Doe v. Richard Roe. (5) In physics: For velocity or volume. (6) In music: As an abbreviation of violino, violini, voce, volta, etc. (7) In mathematics: For the vector part of a quaternion. (8) In electrics: As a symbol for volt.

Vaccination, the act or art of vaccinating; the introduction of vaccine matter into the human frame with the view of protecting it against smallpox, or rendering that disease less formidable. When vaccine lymph is introduced into the arm of an infant, by one or more punctures of a lancet, no noticeable effect is discernible for two days. Then a slight papula arises, which, on the 5th or 6th day, becomes of a bluish color and vesicular, with a raised head and a central cup. On the 8th day it reaches full development, and an inflammatory areola appears, which spreads with the extension of the vesicle for two more days. Then a crust or scale is produced in the center of the vesicle, and gradually extends till it covers it in every part. On the 14th or 15th day the scale becomes hard and brown; it next contracts, dries, and blackens, till, between the 20th and the 25th day, it falls off, leaving a permanent circular, depressed, and foveated cicatrix.

In most of the cities and towns of the United States civic ordinances require the vaccination of children before their admission to the public schools.

Vacuum, in physics, a portion of space void of matter. The experimental philosopher is obliged to recognize the practical impossibility of obtaining a perfect vacuum. The so-called Torricellian vacuum, which exists above the mercury column of a barometer, is really filled with mercury vapor probably mixed with a small percentage of air. The very action by means of which the air pump produces its vacuum shows that there can never be an absolute void — a little air always remaining behind.

Vacuum Tubes, glass tubes in which a vacuum has been made and which have then been hermetically sealed, and into the opposite extremities of which platinum wires have been soldered, with an arrangement at the free ends of these whereby they may be connected with the secondary wires of an induction coil, or may, generally, be put into the circuit of an electric current. The object of this arrangement ("Geissler's tubes") is to pass a high-pressure current of electricity through the so-called vacuum, which is in reality a highly rarefied quantity of the particular gas (air, oxygen, nitrogen, etc.) with which the

tube had been filled prior to exhaustion. When such a current passes, the residual gas glows with a bright light the color of which varies with the nature of the gas in the tube.

Vagrants, in the United States, persons going about from door to door, or begging on the highway, who may have no fixed place of residence.

Vail, Alfred, an American inventor; born in Morristown, N. J., Sept. 25, 1807; was graduated at the University of the City of New York in 1836, and in 1837 became associated with Samuel F. B. Morse in his experiments for the purpose of perfecting a scheme of telegraphy. His mechanical knowledge applied to the experimental apparatus resulted in the first available Morse machine. He invented the combination of the horizontal-lever motion to actuate the style; devised the alphabet of dots, spaces, and dashes which it necessitated; and in 1844 constructed the automatic lever and grooved roller which embossed on paper the characters which he originated. He was appointed assistant superintendent of the telegraph line constructed between Baltimore and Washington in 1843, and on the completion of the system, in 1844, was stationed at Baltimore, where he invented the finger key and received the first message from Washington. He died in Morristown, N. J., Jan. 18, 1859. Much of the credit that went to Morse properly belonged to Vail.

Vail, Charles H., an American clergyman; born in Tully, N. Y., April 28, 1866; was graduated at St. Lawrence University in 1892; studied theology and was ordained in the Universalist Church; was pastor of All Souls Church, Albany, N. Y., in 1893–1894. In the latter year he accepted the pastorate of the First Universalist Church in Jersey City. In 1901 he was an unsuccessful candidate for governor of New Jersey on the Social Democratic ticket. His publications include: "Modern Socialism"; "The Socialist Movement"; "The Trust Question"; etc.

Valencia, a seaport of Spain, formerly capital of the kingdom, and now of the province of the same name; on the shores of the Mediterranean; 3 miles from the mouth of the Guadalaviar and 200 miles S. W. of Barcelona. In the Huerta ("garden") surrounding the city the carob, citron, orange, palm, and mulberry grow in wild luxuriance. Silk spinning and weaving are extensively carried on; there are also manufactures of cloths, hats, glass, linen, leather, cigars, and Valencia tiles for flooring. The exports are mainly grain, silk, rice, and fruits. Pop. 170,763.

Valentine, St, a saint of the Roman calendar, said to have been beheaded Feb. 14, 306 A. D., at Rome. From the old notion that birds began to couple on that day, arose the custom of young men and women choosing each other as "valentines" for the ensuing year by a species of lottery, and of sending love missives to each other. The name thus became applied to a letter or other missive sent by young persons of either sex to each other on Valentine's day; the printed missive being of an amatory or satirical nature, generally sent by post anonymously. Some valentines are highly ornamental and artistic, while others (commonly called "comic valentines") are caricatures, designed to reflect on the personal appearance, habits, character, etc., of the persons to whom they are addressed.

Valentine, Edward Virginius, an American sculptor; born in Richmond, Va., Nov. 12, 1838; entered Jouffrey's atelier in Paris; was a pupil under Bouainti in Italy, and Kiss in Germany; and attended the Royal Academy of Arts in Berlin. He was president of the Richmond Art Club and the Valentine museum; one of the executive committee of the Virginia Historical Society; and a member of several patriotic and secret organizations. His works include, a marble entitled "The Blind Girl"; bronze busts of prominent American generals and statesmen, and many ideal figures, etc.

Valentine, Milton, an American theologian; born near Uniontown, Md., Jan. 1, 1825; was graduated at Pennsylvania College, Gettysburg, in 1850; ordained in the Lutheran Church in 1852. In 1868 he was called to the presidency of the Pennsylvania College. He resigned that post in

1884 and became Professor of Systematic Theology and chairman of the faculty at the Lutheran Theological Seminary. He was joint editor of the "Lutheran Quarterly" in 1871–1876 and 1880–1885 and became the same again in 1898.

Valentini, Philip Johann Joseph, an American archæologist; born in Berlin, Germany, in 1828; studied philology at the Gymnasium of Targau, and later took a course in jurisprudence at the University of Berlin. His work in deciphering pre-Columbian manuscripts and hieroglyphics was so successful that he became one of the most noted of American archæologists. One of his important achievements was the translation of the celebrated Mexican calendar stone. He died in New York city, March 16, 1899.

Valentinian, a Roman emperor (364–375); born of humble family in Cibalis, Pannonia, in A. D. 321. By his capacity and courage he rose rapidly in rank under Constantius and Julian, and on the death of Jovian was chosen as his successor (Feb. 26, 364). He resigned the East to his brother Valens, and himself governed the West with watchful care down to his sudden death at Bregetio, Nov. 17, 375, brought on by a fit of passion.

Valentinians, in Church history, the followers of Valentinus, an Egyptian gnostic, whose sect arose at Rome, then rooted itself deeply in Cyprus, and finally spread throughout a great part of Southern Europe, Western Asia, and Northern Africa. He supposed that in the Pleroma there were 30 male and as many female æons united in wedlock, with four unmarried, these latter being Horus, Christ, the Holy Spirit, and Jesus. The youngest æon, Sophia (Wisdom), brought forth a daughter, Achamoth, whence sprang the Demiurge, who created mankind. This Demiurge, becoming puffed up with pride, aspired to be regarded as the only god, and led many angels into the same error. To repress his insolence, Christ descended, Jesus, one of the highest æons, joining him when he was baptized in Jordan. The Demiurge had him crucified; but before his death, both Jesus the Son of God and the rational soul of Christ had separated, leaving only the sentient soul and the ethereal body to suffer. The Valentinians were divided into the Ptolemaitic, the Secundian, the Heracleonite, the Marcosian, and many other sects.

Valerian, an order of herbs or rarely shrubs belonging to the division of monopetalous dicotyledons having the stamens arising from the petals.

VALERIANA.

The order is distinguished from its congeners by the opposite leaves; small irregular flowers. It contains 12 genera and about 190 species, distributed through Northwestern America, Europe, Northern Africa, and temperate Asia — unknown in Australia, and only one species South African. It has a penetrating odor, and a bitter, acrid, somewhat aromatic taste; when distilled with water it yields a volatile oil and valerianic acid. Cats have a strange liking for the odor, and it exercises a remarkable intoxicating or stimulating power over them; the plant is sometimes called cats' valerian. It is often used to tempt cats to an unhappy fate.

Valkyrjur (more commonly, Valkyries), in Northern mythology, the beautiful "maids of Odin," goddesses of fate allied to the Norns. They numbered either nine or thrice nine, and in three bands went forth on horseback and clad in full armor, through air and water, over the wide world to choose for Odin the Valr or Einherjar ("single champions") worthy of Valhal. At home in Valhal the Valkyrjur were the cupbearers of the Æsir, and the Einherjar.

Vallandigham, Clement Laird, an American politician; born in New Lisbon, O., July 29, 1820; was a member of Congress in 1858–1863, and during the Civil War was a strong friend of the Southern Confederacy. He was arrested in May, 1863, by United States troops, on a charge of uttering disloyal sentiments; was tried by court-martial; and sentenced to confinement till the end of the war. This was afterward commuted to banishment to the Confederate lines; but, as he was not very cordially received there, he went to Canada. In the same year he was nominated as candidate for governor of Ohio, and was beaten by the largest majority ever given in that State. He was a member of the Democratic National Convention in 1864, at which General McClellan was nominated for the presidency. He died in Lebanon, O., June 17, 1871.

Valley, in geology, a long depression or hollow on the surface of the earth, margined by ground more or less high. It may be on a vast scale of magnitude, as the bed of an ocean would be if upheaved sufficiently to become land, or it may be comparatively small but broad; or narrow, as a glen or a deep gorge, called by Americans a canyon or gulch. It may be surrounded by hills, or may constitute a depression crossing a country from sea to sea. Valleys of stratification are produced by the decay and removal of shale or other soft rocks, while the less destructible hard rocks remain. Other valleys have been excavated by rivers alone. Many valleys on low-lying plains adjacent to the sea have originally constituted river beds and banks, then through a depression of the land the ocean has gained access to them, constituting them estuaries; then again upheaval has made them land valleys. Other valleys have constituted the beds of old lakes. Valleys, resembling troughs, on table-lands are in many cases produced by the flexure of strata laterally, so as to constitute a series of elevations and depressions. A small number of valleys occurring high up mountain sides may constitute old craters of eruption.

In anatomy, a deep fossa separating the hemispheres of the cerebellum (called also vallecula). In architecture, the internal angle formed by the junction of two inclined sides of a roof.

Valley Forge, a village in Chester Co., Pa., on the Schuylkill River, and 24 miles W. of Philadelphia. It is noted as the place where Washington with about 11,000 troops went into winter quarters in December, 1777. It was here also that Baron Steuben became inspector-general of the army, and the treaty of alliance with France was announced, May 6, 1778. During the winter the American army suffered greatly from cold and hunger, and about half of the men were unfit for active duty. In 1893 the Pennsylvania Legislature took steps to acquire and preserve Valley Forge as a public park and historic landmark. On Oct. 19, 1901, a monument was here unveiled by the Daughters of the Revolution in memory of the soldiers who died in camp during the winter of 1777–1778.

Valois, House of, a dynasty which ruled France from 1328 to 1589. In 1285 Philip III. gave the county of Valois (now in the departments of Oise and Aisne) to his younger son Charles, and on the extinction of the Capet dynasty in 1328 the eldest son of this Charles of Valois ascended the French throne as Philip VI., and founded the Valois dynasty, which was followed by the house of Bourbon.

Valparaiso ("the vale of Paradise"), the chief seaport of Chile; in a province of the same name; 90 miles W. N. W. of Santiago, the capital, with which it is connected by railway. It is built at the base of steep, bare hills about 1,600 feet high, and round the head of a bay which possesses good anchorage, but is exposed to N. winds, and therefore unsafe in winter.

The city has been greatly damaged by earthquakes on various occasions (notably 1822, 1851 and Aug., 1906), as well as by a bombardment by a Spanish fleet on March 31, 1866. The climate is good, but dry, little rain falling except during the three winter months. The annual mean temperature is 58°. The chief items of import are copper and copper ore, gold, silver, cereals, wool, hides, and tallow. Pop. province, 220,756; city, 122,447.

Valve, a kind of movable lid or cover adapted to the orifice of some tube or passage, and so formed as to open communication in one direction and to close it in the other, used to regulate the admission or escape of a fluid, such as water, gas, or steam. Some valves are self-acting, that is, they are so contrived as to open in the required direction by the pressure of the fluid on their surface, and immediately to shut and prevent the return of the fluid when the direction of its pressure changes. Others are actuated by independent external agency. Examples of the former kind are presented in the valves of pumps, and in the safety valves of steam boilers, and of the latter in the slide-valves appended to the cylinder of a steam engine for the purpose of regulating the admission and escape of the steam. The construction of valves admits of an almost endless variety.

Vampire, the subject of one of the most gruesome superstitions in the world; that of the dead leaving their graves to destroy and prey on the living. It is characteristically Slavonic, though by no means exclusively so, and it is strongest of all in White Russia and the Ukraine. It still dominates the popular imagination in Russia, Rumania, Servia, among the Czechs of Bohemia, and the Slovaks of Hungary, and also in a less degree in Albania and Greece.

Vampire Bat, any species of the group Desmodontes, consisting of two genera, each represented by a single species. They differ from all other bats in the character of dentition, the upper incisors being very large, trenchant, and occupying the whole space between the canines; premolars very narrow, with sharp-edged longitudinal crowns; molars rudimentary or none; œsophagus very narrow; cardiac extremity of stomach greatly elongated, forming a long, narrow cæcum. The species are sanguivorous, and cling by their extremities to the body of the animal whose blood they may be sucking. They are numerous and dangerous in South America.

Van Amringe, John Howard, an American educator; was graduated at Columbia College (now University) in 1860; was tutor of mathematics there in 1860–1863; adjunct professor of the same in 1863–1873; then was made full professor. In 1894 he was elected dean of the School of Arts. When Seth Low resigned the presidency of Columbia University on being nominated mayor of New York, Dr. Van Amringe was acting president of the university till the election, in January, 1902, of Dr. Nicholas Murray Butler; retired in 1910.

Van Benschoten, James Cooke, an American educator; born in La Grange, N. Y., Dec. 15, 1827; was graduated at Colgate University in 1856; was principal of Oxford Collegiate Institute in 1857–1858; took special studies at the Universities of Berlin, Bonn, Gottingen and Athens in 1858–1861. Returning to the United States he was made Professor of Greek at Wesleyan University, and, though he was offered similar chairs in other universities, remained with Wesleyan till his death, Jan. 18, 1902. He was director of the American School of Archæology in Athens in 1884 and 1885 and while in Greece secured from the Greek government the land on which is built the edifice of that institution. Died 1902.

Van Brunt, Henry, an American architect; born in Boston, Mass., Sept. 5, 1832; was graduated at Harvard College in 1854. During the Civil War he served for two years on the staff of the commander of the North Atlantic squadron. After practising his profession in Boston for about 20 years he settled in Kansas City in 1887. He was the architect of many buildings connected with Harvard University and of numerous public edifices in different parts of the United States, including churches, libraries, railroad buildings, etc. He designed the Electricity Building for the World's Co-

lumbian Exposition. He was elected president of the American Institute of Architecture in 1898. Died 1903.

Van Buren, Martin, an American statesman; 8th President of the United States; born in Kinderhook, N. Y., Dec. 5, 1782. In 1812 and 1816 he was elected to the State Senate, and in 1815–1819 he was State attorney-general. In 1821 he entered the United States Senate, of which he was a member till his election in 1828 to the governorship of New York. In the same year he zealously supported Jackson for the presidency, and in 1829 he was rewarded with the portfolio of Secretary of State. This he resigned in 1831. The year following he was elected Vice-President, and in 1836 President, but by a popular majority of less than 25,000, and that largely owing to his declared opposition to the "slightest interference" with slavery. Van Buren's four years of office were darkened by the gloom of financial panic; but what one man could he did to lighten it, by wringing from Congress its assent to a measure for a treasury independent of private banks. This and his firm adherence to obligations of neutrality during the Canadian rebellion of 1837 are his most statesmanlike acts, but both cost him popularity and votes; in 1840 he and his party were overwhelmingly defeated by the Whigs. He lost the nomination in 1844, because he opposed the annexation of Texas; and his nomination by the Free Soil party in 1848 only secured the return of the Whig candidate and the rejection of both Democrats. This was his last important appearance. He died in Kinderhook, July 24, 1862.

Van Buren, William Holme, an American surgeon; born in Philadelphia, Pa., April 5, 1819; was graduated at Yale University and studied medicine at the University of Pennsylvania; was surgeon in the United States army in 1840–1845. He then became connected with the Medical Department of the University of the City of New York, where he was made Professor of Anatomy in 1852; became eminent as a practising physician and an operative surgeon. In 1861 he was active in the establishment of the United States Sanitary Commission, and was the medical member of its executive committee during the Civil War. In 1866 he resigned his chair at the University Medical College and was made Professor of Surgery at the Bellevue Hospital Medical College. He was a member of numerous medical societies. He died in New York city, Mar. 25, 1883.

Vance, Zèbulon Baird, an American lawyer; born in Buncombe co., N. C., May 13, 1830. He was admitted to the bar in 1852; member of Congress in 1858–1861; colonel in the Confederate army in the Civil War; governor of North Carolina in 1862–1865, and 1877–1879; and United States Senator from 1879 till his death, April 14, 1894.

Van Cott, Cornelius, was born in New York, Feb. 12, 1838; educated in the public schools, and learned the trade of carriage maker. He was appointed inspector in the Custom House under Abraham Lincoln, and postmaster at New York by President Harrison in 1889; reappointed in 1897 and 1901; died Oct. 25, 1904.

Vancouver, city and capital of Clarke county, Wash.; on the Columbia river and the Northern Pacific railroad; 6 miles N. of Portland, Or.; is accessible to the largest sea-going vessels; has steamer connection with the chief Columbia river points; is the seat of St. James College, a State Institution for Defective Youth, and the headquarters of the Military Department of the Columbia. Pop. (1910) 9,300.

Vancouver Island, an island belonging to British Columbia; is separated from the mainland by Queen Charlotte Sound, Johnstone Strait, and Strait of Georgia, which taken together form an open sea way. The island is 278 miles in length, and from 50 to 65 miles in breadth; area, 15,937 square miles; pop. 30,000. The whole country is more or less densely wooded. Fruit culture is profitably carried on. The island is very rich in minerals. Besides gold, silver, copper, iron, etc., it possesses great fields of excellent coal, at Nanaimo in particular. Another source of wealth is in the fisheries; good banks lie off the coast, and fish and fish products to the value of $1,200,000 annually are exported from Victoria, the capital.

Vandal, one of a Slavonic or Teutonic tribe who inhabited the banks of the Oder, and the sea coasts of Pomerania and Mecklenburg, about A. D. 250. At the beginning of the 5th century they traversed the Rhine, the Rhone, and the Pyrenees, and founded a powerful kingdom in Spain. They afterward passed into Africa under their king, Genseric, 429, and after a career of conquest on that continent, during which they had embraced Christianity, Carthage fell under their victorious arms, Oct. 9, 439. Here they commenced the formation of a powerful navy, and fitted out an expedition against Rome, which they sacked, June 15–29, 455. Having embraced the Arian heresy in 530, they carried on a cruel persecution against the members of the orthodox faith. Their rule in Africa was destroyed by Belisarius, and the entire nation had disappeared from that continent by 558. A person ignorant and barbarous, and hostile to the progress of the arts and literature is called a vandal.

Vanderbilt, Cornelius, an American capitalist; born near Stapleton, Staten Island, N. Y., May 27, 1794; early engaged in steamboat transportation between Staten Island and New York and so enlarged his business that he soon gained the complete control of the New York and Staten Island lines. Later he started steamboats in various waters — the Hudson, the Delaware, Long Island Sound, and established steamboat and other connections between New York and California. In 1864 he withdrew his capital from shipping and invested it in railroads. He secured the management of one railroad after another and in 1877 controlled stocks representing an aggregate capital of $150,000,000, of which he owned fully one-half. In 1861 he presented the swift $800.000 steamship "Vanderbilt" to the United States government to be used for the capture of Confederate privateers and in 1872 founded the Vanderbilt University in Nashville, Tenn., with $500,000, afterward increased to $700,000. At the time of his death in New York city, Jan. 4, 1877, his fortune was estimated at nearly $100,000,000, and he was supposed to be the richest man in the world.

Vanderbilt, Cornelius, an American capitalist; born in Staten Island, N. Y., Nov. 27, 1843; a son of William Henry. He engaged in railroading and later was made chief director of the Vanderbilt system of railroads in 1885–1895, when he retired from business because of failing health. He united with his brothers in a gift of $250,000 for the erection of the Vanderbilt Clinic of the College of Physicians and Surgeons in 1896; presented an addition costing $250,000 to St. Bartholomew's Home in New York city; gave "Vanderbilt Hall" to Yale University, and large sums of money to various charitable, religious, and public institutions. He died in New York city, Sept. 12, 1899.

Vanderbilt, Cornelius, an American inventor; born in New York city; a son of the second Cornelius; was graduated at Yale University in 1895; entered the shops of the New York Central railroad; invented several important pieces of railroad machinery, including a corrugated furnace to be used in place of the ordinary locomotive fire box; lectured at the Sheffield Scientific School of Yale University; and was appointed as a member of the New York Civil Service Board in 1901.

Vanderbilt, William Henry, an American capitalist; born in New Brunswick, N. J., May 8, 1821; son of the first Cornelius; was appointed vice-president of the Hudson River railroad in 1864 and later of the New York Central railroad; and on the death of his father became president of these railroads, together with the Lake Shore and the Michigan Central. Subsequently he secured control of the Chicago and Northwestern and of the Cleveland, Columbus, Cincinnati and Indianapolis railroads and also obtained connections with the New York, Chicago and St. Louis and West Shore railroads. He resigned his various offices, because of failing health, in 1883, and placed his affairs in charge of his son Cornelius. Among his public benefactions were the removal of the obelisk from Egypt to Central Park, New York city, and the gift of $200,000 to the Vanderbilt University fund. He died in New York city, Dec. 8, 1885.

Vanderbilt University, an American educational institution in Nashville, Tenn., originally founded under the name of Central University in 1872.

Van Dorn, Earl, an American military officer; born near Port Gibson, Miss., Sept. 17, 1820; was graduated at the United States Military Academy in 1842. On the outbreak of the Civil War in 1861, he joined the Confederate army; took an active part in the battle of Pea Ridge, March 7 and 8, 1862; attacked General Rosecrans at Corinth, Oct. 3–4, 1862, and was defeated with great loss. He was killed in a private quarrel in Maury co., Tenn., May 8, 1863.

Van Dyck, Sir Anthony, except perhaps Titian, the greatest of all portrait painters, was born at Antwerp on the 22d of March, 1599, where his father was a merchant. He studied painting first under Van Balen, and then under Rubens, leaving the studio of the latter after a few years to proceed to Italy, where he spent about five years (1623–1628), chiefly at Genoa, Venice, and Rome, and then returned to Antwerp. Having acquired a great reputation as a portrait painter he was invited to England by Charles I., who bestowed upon him the honor of knighthood, a considerable annuity, and a summer and winter residence. The painter rewarded this generosity by unceasing diligence, and executed, besides a multitude of portraits, several mythological and historical paintings. He was fond of splendor, and lived in a very expensive style. He died in 1641 and was buried in St. Paul's. Van Dyck's great strength lay in portrait painting, but he sometimes amused himself with engraving and etching.

Van Dyke, Henry Jackson, an American educator; born in Germantown, Pa., Nov. 10, 1852; was graduated at Princeton University in 1873, at the Princeton Theological Seminary in 1877, and at Berlin University in 1878; and soon afterward assumed the pastorate of the United Congregational Church in Newport, R. I. He was chosen pastor of the Brick Presbyterian Church, in New York city in 1883 and continued in that charge till 1900, when he resigned to become Professor of English Literature in Princeton University. His publications include: "The Reality of Religion"; "The Poetry of Tennyson"; "The Ruling Passion"; etc.

Van Dyke, John Charles, an American art critic; born in New Brunswick, N. J., April 21, 1856; was educated at Columbia and Rutgers Colleges; admitted to the bar in 1877; studied art in Europe, and on his return to the United States devoted himself to literary work and to lecturing on art in Rutgers, Harvard, Princeton, and other universities. He was the editor of the "Studio" in 1883–1884, the "Art Review" in 1887–1888, and the author of "Books and How to Use Them"; "Nature for its Own Sake"; etc.

Van Dyke, Theodore Strong, an American lawyer and writer on outdoor sports; born in New Brunswick, N. J., July 19, 1842; was graduated at Princeton College in 1863; practised law nine years; health failing, became an irrigation engineer, residing in Southern California.

Vane, Sir Henry, commonly called Sir Harry Vane, an English statesman and writer; born in Hadlow, Kent, England, in 1612; eldest son of Sir Henry Vane, secretary of state. He was educated at Westminster and Oxford, afterwards completing his education at Geneva, where he became a Puritan and a republican. Returning to England, he found that his religious and political opinions exposed him to much ill will and annoyance and he consequently emigrated to New England, arriving at Boston in 1635. He was elected governor of Massachusetts in 1636. In 1637 he returned to England, after which he was knighted, entered Parliament, and became treasurer of the navy. In 1656 he was imprisoned in Carisbrooke Castle for four months, by order of Cromwell, on account of a pamphlet he had written. On his release he continued to resolutely oppose the government of Cromwell and of his son Richard. In 1659 he was a member of the committee of safety and president of the council of state. After the Restoration he was sent to the Tower in February, 1660, and subsequently moved from prison to prison. A rising

of the Fifth Monarchy party in January, 1661, led to increased severity toward him, and he was tried for high treason before the Court of King's Bench, June 2, 1662, condemned, and beheaded on Tower Hill on June 14.

Van Hise, Charles R., an American geologist; born in Fulton, Wis., May 29, 1857; was graduated at the University of Wisconsin in 1879. In 1888 he accepted the chair of geology in the University of Wisconsin; in 1892 was made non-resident Professor of Structural Geology at the University of Chicago; and in 1903, after 25 years' service there, became president of the University of Wisconsin. In 1893 he joined the editorial staff of the "Journal of Geology." He was author of "Principles of North American Pre-Cambrian Geology;" "Some Principles Controlling the Deposition of Ores;" "A Treatise on Metamorphism;" etc.

Van Horn, James J., an American military omcer; born in Mount Gilead, O., Feb. 6, 1835; was graduated at the United States Military Academy in 1858. At the beginning of the Civil War he was serving at San Antonio, Tex., where he was taken prisoner and held for a year. Returning North he was made aide-de-camp in the Army of the Potomac; took part in the engagements at South Mountain, Antietam, and Bethesda Church; and so distinguished himself at Cold Harbor that he was brevetted major. In 1891 he was promoted colonel of the 8th Infantry, which regiment he commanded during the Santiago campaign in Cuba. He died in Fort Russell, Wyo., Aug. 30, 1898.

Van Horne, Sir William Cornelius, a Canadian railroad official; born in Joliet, Ill., Feb. 3, 1843; began his career as an office boy in a railroad station; was rapidly promoted till he was made general superintendent of the St. Louis, Kansas City, and Northern railway in 1872. Later he successively held the same post on the Southern Minnesota, the Chicago and Alton, and the Chicago, Milwaukee and St. Paul railroads. In 1881 he was requested to preside over the destinies of the Canadian Pacific. In 1896 Queen Victoria bestowed on him the order of knighthood.

Vanilla, a genus of epiphytal Orchideæ, natives of tropical America and Asia. They are distinguished from most other orchids by their climbing habit; they cling with their aerial roots to the stems of trees or to rocks, attain the height of 20 or 30 feet, and obtain their chief sustenance from the atmosphere. There are about 20 species comprised in the genus. The flowers are thick, fleshy, and fragrant, but dull in color. Vanilla is remarkable among orchids as possessing the only species of the order that has any economical value. From the fruit of several species the vanilla of commerce is obtained, the best being pro-

VANILLA PLANIFOLIA, PORTION OF STEM WITH SPIKE OF FLOWERS.
a, a seed pod.

duced by the West Indian species, which is now cultivated in many tropical countries. The fruit is cylindrical, about a span long, and less than half an inch thick. It is gathered before it is fully ripe, dried in the shade, and steeped in a fixed oil, generally that of the cashew nut. It contains within its tough pericarp a soft black pulp, in which many minute black seeds are imbedded. It has a strong, peculiar, agreeable odor, and a warm, sweetish taste. Vanilla is much used by perfumers, and also for flavoring chocolate, pastry, sweetmeats, ices, and liquors.

Van Ness, Cornelius Peter, an American diplomatist; born in Kinder-

hook, N. Y., Jan. 26, 1782; settled in Burlington, Vt. In 1817–1821 he was a commissioner to arrange boundary lines of the United States under the treaty of Ghent; in 1821–1823 was chief justice of Vermont; and in 1823–1829 was governor of that State. In the latter year he was appointed United States minister to Spain, where he remained till 1837. He died in Philadelphia, Pa., Dec. 15, 1852.

Van Ness, Thomas, an American clergyman; born in Baltimore, Md., June 29, 1859; was educated at the Philadelphia High School and Harvard College; entered the Unitarian ministry in 1884, and had churches in Denver, Col. (1885), and San Francisco, Cal. (1889–1893), and went to the Second Church in Boston, Mass., in 1893. He wrote "The Coming Religion"; "My Visit to Count Tolstoi"; etc.

Van Ness, William Peter, an American jurist and author; born in Ghent, N. Y., in 1778. He was the friend of Burr, took his challenge to Hamilton, and was one of Burr's seconds. Under the pen-name of "Aristides" he published: "Examination of Charges against Aaron Burr"; with John Woodworth edited "Laws of New York." He died in New York city, Sept. 6, 1826.

Van Rensselaer, Henry Kilian, an American patriot of Dutch descent; born in Albany, N. Y., in 1744; commanded a regiment in the Revolutionary War; distinguished himself on several occasions; and in October, 1777, aided in the actions which led to the surrender of Burgoyne. After the peace a famous mutiny broke out among his troops. He died in Greenbush, N. Y., Sept. 9, 1816.

Van Rensselaer, Mrs. Mariana (Griswold), an American art critic; born in New York city, Feb. 23, 1851. She contributed largely to current periodicals on art and architecture, and published the valuable books: "Art Out of Doors"; "English Cathedrals"; "American Etchers"; etc.

Van Rensselaer, Stephen, an American military officer; born in New York, Nov. 1, 1765; was graduated at Harvard College in 1782. He became major of militia in 1786, was promoted colonel in 1788, and Major-General in 1801; and in 1812 was assigned to the command of the Northern frontier, in which capacity he commanded at the battle of Queenstown Heights, Oct. 13–14, 1812. On Oct. 24, he resigned his commission because of public dissatisfaction with his conduct in that engagement. He was chosen chairman of the Erie Canal Commission; became a regent of the University of New York; made a geological survey along the line of the Albany and Buffalo canal in 1821–1823; founded the Rensselaer Polytechnic Institute at Troy, N. Y.; and was a member of the State Constitutional Convention in 1821, and of Congress in 1823–1829. He died in Albany, N. Y., Jan. 26, 1839.

Van Reypen, William Knickerbocker, an American naval officer; born in Bergen, N. J., Nov. 14, 1840; was educated at the University of New York; he was appointed surgeon in 1868; medical inspector in 1887, and medical director in 1895; represented the medical department of the United States navy at the Twelfth International Medical Congress in Moscow, Russia, in 1897; and was appointed Chief of the Bureau of Medicine and Surgery in December of the same year. During the Spanish-American War he designed and fitted out the hospital ship "Solace," the first of its kind ever used in naval warfare.

Van Sant, Samuel R., an American executive; born in Rock Island, Ill., May 11, 1844; received a collegiate education. During the Civil War he served for three years as a private in Co. A, 9th Illinois Cavalry. He served as speaker of the Minnesota Legislature in 1895 and was elected governor of Minnesota in 1901.

Vanuxem, Lardner, an American geologist; born in Philadelphia, Pa., July 13, 1792; was graduated at the School of Mines, Paris, in 1819. In 1827–1828 he examined the geological features of the States of New York, Kentucky, Ohio, Virginia, and Tennessee. His efforts resulted in the organization of the Association of American Geologists, which grew to be one of the largest scientific societies in the world. He died in Bristol, Pa., Jan. 25, 1848.

Van Vleck, John Monroe, an American educator; born in Stone Ridge, N. Y., March 4, 1833; was graduated at Wesleyan University in 1850; became adjunct Professor of Mathematics in Wesleyan University in 1853; Professor of Astronomy and Mathematics in 1858; and was acting president in 1872–1873, 1877–1889, and 1896–1897. He accompanied the Solar Eclipse Expedition to Mt. Pleasant, Ia., in 1869. He was a member of the principal scientific societies.

Van Vliet, Stewart, an American military officer; born in Ferrisburg, Vt., July 21, 1815; was graduated at the United States Military Academy in 1840. He took part in the action at Monterey and was present at the siege of Vera Cruz and Mexico. In 1861–1862 he was chief quartermaster of the Army of the Potomac. He was brevetted Major-General U. S. A. in 1865, for "faithful and distinguished services during the war"; promoted colonel and assistant quartermaster-general in June, 1872; and was retired in 1881. He died in Washington, D. C., March 29, 1901.

Van Wyck, Charles Henry, an American lawyer; born in Poughkeepsie, N. Y., May 10, 1824; was graduated at Rutgers College in 1843; was a member of Congress, 1859–1863. He entered the Civil War as colonel of the 56th New York Volunteers, with which he served till the conclusion of peace; was again in Congress in 1866–1870; settled in Nebraska in 1874; and was elected to the United States Senate as a Republican in 1880. He exerted much influence in forming the Farmer's Alliance movement in Nebraska, and was the Populist candidate for governor in 1892. He died in Washington, D. C., Oct. 24, 1895.

Vapor, in physics, an aeriform fluid into which some volatile substance is changed by the action of heat. Vapor is essentially the same as gas, but the word vapor is conventionally limited to the gaseous state of a body which is liquid or solid at ordinary temperatures, while the term gas is applied to aeriform bodies which are in that rarefied state at ordinary temperatures. Thus we speak of hydrogen gas, but of watery vapors. Vapors, like gases, have a certain elastic force, by which they exert a pressure on every part of any vessel in which they are enclosed. Vapors are formed instantly in a vacuum; in the atmosphere they are generated more slowly. When not saturated they exactly resemble gases in their action; when saturated and in contact with the liquid by which they were generated, they can neither be compressed nor expanded, but remain constant, both in their elastic force and in their density.

Variable Stars, in astronomy, periodical stars; stars which vary in their luster at different times. Compared with the enormous number of the heavenly bodies they are but few. Sir John Herschel gave a list of 66 known to him, and considered it nearly complete. The most remarkable is Algol.

Variation, in astronomy, any deviation from the mean orbit or mean motion of a heavenly body produced by the perturbation of another body or bodies. Thus the planets are considered to move mathematically in elliptic orbits, which would be the case if they were subject to the attraction of the sun only, but being acted on by each other, there is supposed to be a minute and slow but constant variation in the elements of the ellipse. Variations which are compensated in short intervals are called periodic, and those which require for their compensation a long period are called secular.

In biology: (1) A tendency in all organisms to vary slightly from other organisms produced by the same parents. (2) Hereditary modification. (3) A modification directly due to the physical conditions of life; such as the dwarfed condition of shells in the Baltic, or of stunted plants on Alpine summits. (4) An organism, or a group of organisms, exhibiting modification due to external conditions.

In grammar, a change of termination of words, as in declension, conjugation, comparison, and the like; inflection. In music, an air or theme with variations is a musical composition in which a simple melody is first given out, and then several times repeated, each repetition containing

changes by means of broken harmony, counterpoint, broken rhythm, the arpeggio, scale passages, and even by modification of key. In navigation, the angle included between the true and magnetic meridians of any particular place.

Varick, Theodore Romeyn, an American surgeon; born in Dutchess co., N. Y., June 24, 1825; was graduated at the Medical Department of the New York University in 1846. He settled in Jersey City, N. J., in 1848; and became famous as a surgeon. He introduced the use of cocaine in capital amputations, and was the first in the United States to employ the method of Trendelenberg in performing amputations at the hip joint. He also perfected a method for the use of hot water in surgery, by which he performed the largest number of successful operations known to his time, failing in only three cases out of 54. Died in Jersey City, N. J., Nov. 23, 1887.

Varicose Veins. When a vein becomes dilated at a certain part of its course, for no apparent physiological object, such as relieving the venous circulation elsewhere it is said to be varicose, the actual dilatation being called a varix. Some veins seem to be unaffected by varices, which, however, are of common occurrence in the sub-mucous veins of the rectum, in the spermatic veins, and in the veins of the lower extremities. They are occasionally (but very rarely) found in other veins. Varices may occur at almost any period of life, but are chiefly developed during middle age. Their formation is aided by any condition of the system which impedes the circulation, as certain diseases of the heart, lungs, and liver, and by continued high living, which is especially liable to induce hemorrhoids.

Variegation, in plants, is a condition in which other colors are exhibited in parts where the normal color should be green. Thus white, yellow, or other tints take the place of green in the leaves and other herbaceous parts. Yet variegation is regarded in botany as a disease, the causes of which are unknown. All that is yet determined respecting it is that it is invariably accompanied by a more or less complete suppression of the chlorophyll, the green granular matter which underlies the cuticle of the green parts of plants. Variegation is usually a permanent characteristic, or may be made so by careful methods of propagation, and is compatible with vigorous health. These considerations give an importance to variegated plants in ornamental gardening which they would not otherwise possess. Variegated pelargoniums and many other bedding plants, perennial herbs and annuals, and some shrubs and trees derive their popularity as ornaments of the flower garden from their variegation, which in many cases is so brilliant that it is substituted for flowers in the production of color effects.

Varnish, a thin, resinous fluid, which, when spread over the surface of wood, metal, glass, or other solid substance, forms a shining coating, impervious to air and moisture. The great number of varnishes consist of some resinous material, dissolved in linseed oil, alcohol, or some liquid hydrocarbon such as turpentine and benzole. Those made by dissolving a resin in a non-volatile drying oil, like that from linseed, are called oil varnishes; and those prepared by using volatile solvents (alcohol, benzole, etc.), for the resins are called spirit varnishes. In the case of the latter the solvent becomes dissipated as the varnish dries, so that when any surface is coated with a varnish of this kind only a film or coating of resin remains, which is apt to crack and peel off; but means are taken either in the preparation of the varnish or in the laying of it on to counteract this tendency. With an oil varnish, on the contrary, the oil remains as part of the coating, giving it toughness, while the resin gives it hardness.

Varnish Tree, the name given to various trees which furnish varnish. They are chiefly natives of the hotter parts of the Eastern Hemisphere, and the varnish tree of each country or large province is, as a rule, different from that of others.

Varro, Marcus Terentius, a Roman author; born probably of equestrian rank in the Sabine town of Reate, in 116 B. C. He saw some service under Pompey, and in the civil

war was legate in Spain with Petreius and Afranius. The second triumvirate plunged him into danger, and Antony plundered his splendid Cumæan villa; burned his beloved books, and placed his name in the list of the proscribed. But he was soon exempted, and Augustus even restored his property, so that he was able to spend his latest years in peace. He survived till 27 B. C. Of numerous writings chiefly on language, history, and philosophy, only one has come down to us entire — a treatise on agriculture. Fragments of a treatise on the Latin language are also extant.

CHINESE, JAPANESE, AND INDIAN VASES.

Varuna, in the Vedic mythology of the ancient Hindus, one of the Adityas, or offsprings of Aditi, the deity of space, and among these, one of the most prominent. He is often invoked together with Mitra, some times together with Agni, the god of fire, or with Indra, or other elementary deities; but frequently he is also separately praised by the poets of the Vedic hymns. He is particularly the god of waters.

Varus, Publius Quintilius, a Roman general, celebrated in consequence of the great defeat that he suffered at the hands of Arminius, leader of the Germans. In 7 B. C., having received from Augustus the command to introduce the Roman jurisdiction into the German territory just conquered by Drusus, he was carrying out his mission when he was suddenly attacked by an immense host under Arminius, and his whole army was destroyed. Varus put an end to his own life. The exact scene of this battle is disputed.

Vascular System, that portion of the interior of a plant in which spiral vessels or their modifications exist. In an exogenous stem, the vascular system is confined to the space between the pith and the bark. In an endogenous stem, the vascular system exists in the form of fibrous bundles, consisting of woody tissue containing spiral or other vessels, the whole imbedded in the cellular system.

In comparative anatomy, the circulatory system. A term applied to the whole series of vessels — arteries, veins, lymphatics, and lacteals — directly or indirectly connected with the circulation of the blood.

Vase, a vessel of various forms and materials, applied to the purposes of domestic life, sacrificial uses, etc. They were often used merely for ornament, or were at least primarily ornamental in character and design. The antique vases found in great numbers in ancient tombs and catacombs in Etruria, Southern Italy, Greece, Sicily, etc., and used to contain the ashes of the dead, were for the most part made of

GRECIAN VASES.

baked clay, painted and glazed. Rare Chinese and Japanese vases are highly prized, and $20,000 has been paid for one vase at auction in New York.

Vaseline, or **Vaselene,** petroleum jelly, a pale yellow, translucent, semi-solid substance, consisting of a mixture of the hydrocarbons, obtained by treating the undistilled portion of petroleum with superheated steam, and filtering while hot through animal charcoal.

Vassar College, an American institution of learning, established by Matthew Vassar in Poughkeepsie, N.

Y., in 1861, for the higher education of women. The first donation was $428,000 for buildings and furnishings. This amount was increased by a bequest of $400,000. Later Matthew Vassar, Jr., gave the institution $130,000 and John Guy Vassar, $444,000. There have since been large donations from other persons. The campus, which contains 210 acres, is 3 miles from the Hudson river, and is mostly laid out as a park. In its course of study the institution is on a par with the highest-grade colleges in the United States.

Vassar, Matthew, an American philanthropist; born in Norfolk co., England, April 29, 1792. He emigrated to the United States, where he accumulated a large fortune. In 1861 he gave $428,000 to found Vassar College. He died while reading an address to the trustees of the college, June 23, 1868. By his will he left over $400,000 additional to the institution.

Vatican, The, the most extensive palace in the world, and, as the residence of the Pope, and the storehouse of valuable literary and art collections, one of the chief attractions of modern Rome. In 1450 Nicholas V., with the object of making the Vatican the most imposing of palaces, began the work of combining with it the residences and offices of the cardinals, and the small portion completed by him, afterward occupied by Alexander VI., and named Tor di Borgia, was extended by subsequent Popes. The palace now comprises 20 courts and some 11,000 halls, chapels, saloons, and private apartments. Chief among its great art treasures are the Sistine frescoes of Michael Angelo and Raphael's Stanze and Loggie. The picture gallery is one of the richest in Rome, and the collection of antiquities is the finest in the world, including extensive Egyptian and Etruscan museums, and comprising among its classical sculptures the Torso of Hercules, the Laocoon, and the Apollo Belvedere. The library now contains nearly 25,000 MSS., of which 17,400 are Latin, 3,450 Greek, and 2,000 Oriental; it also contains about 50,000 printed books. The privilege of studying in the art galleries, curtailed since 1870, was extended by Leo XIII. in December, 1878. The Vatican was damaged by fire, November 1, 1903, but it was announced on authority that none of its pictorial or literary treasures were injured.

Vatican Council, the First Council of the Vatican, or the Nineteenth General Council, which assembled on Dec. 8, 1869. At the opening sitting 719 prelates were present, and the number rose in the following year to 764. The work done consisted of two constitutions — one, "Of the Catholic Faith," treating of the primary truths of natural religion, revelation, faith, and the connection between faith and reason; the other, "Of the Church of Christ," treating of the primacy of the Roman See.

Vauban, Sebastien Le Prestre, Seigneur De, Marshal of France, and the greatest military engineer of that country, descended of an ancient and noble family, was born 1633 and early entered the army, where he rose to the highest military rank by his merit and services. He was made governor of the citadel of Lille in 1668, commissioner-general of fortifications in 1677, and marshal of France in 1703. He died at Paris 1707. As an engineer he carried the art of fortification to a degree of perfection unknown before his time. He strengthened and improved above 300 citadels, erected 33 new ones, and directed 53 sieges.

Vaudeville, a term applied to a 15th century Norman folk-song, which originated with Oliver Basselin, who lived in the Val or Van de Vire. Its characteristics were perpetuated in plays interspersed with songs, called Vaudevilles, and occasionally Virelais. In the United States the term denotes light theatrical entertainments of a mixed character.

Vaughan, Herbert, Roman Catholic prelate, born England, April 15, 1832; died June 24, 1903. Was bishop of Salford, 1872 to 1892, and then Archbishop of Westminster till death. Made cardinal 1893.

Vaughan, Victor Clarence, an American physician; born in Mount Airy, Mo., Oct. 27, 1851; was graduated at Mount Pleasant College, Huntsville, Mo., in 1872, and at the Medical Department of the University

of Michigan in 1875; became dean of the Department of Medicine and Surgery in 1890. During the Santiago campaign of 1898 he was surgeon of the 33d Michigan Volunteer Infantry. He was made division surgeon in the same year. In 1900 he became surgeon-general of the Spanish-American War Veterans.

Vault, an arched roof; a concave roof, or roof-like covering, hence applied figuratively to the sky. In architecture, an extended arch covering an apartment so constructed that the stones, bricks, or other material of which it is composed sustain and keep each other in their places. Vaults are of various kinds; a cylindrical vault has a semi-circular arch; a covered vault has an arch which springs from all sides of its plan; a groined vault is one formed by two vaults intersecting at right angles. When a vault is of greater height than half its span, it is said to be surmounted, and when of less height surbased. A rampant vault is one which springs from planes not parallel to the horizon; one vault placed over another constitutes a double vault. A conic vault is formed of part of the surface of a cone, and a spherical vault of part of the surface of a sphere. A vault is simple when it is formed by the surface of some regular solid, and compound when compounded of more than one surface of the same solid, or of two different solids.

Vaux, Calvert, an American landscape architect; born in London, England, Dec. 20, 1824; came to the United States in 1848, and formed a partnership with Andrew J. Downing, with whom he laid out the grounds surrounding the National Capitol and the Smithsonian Institution. Afterward in conjunction with Frederick Law Olmsted he made plans for the laying out of Central Park, New York city, and Prospect Park, Brooklyn, N. Y. He also planned parks for Chicago, Buffalo, Newark, N. J., and other cities, and laid out the State Reservation at Niagara Falls. He became landscape architect of the Department of Public Parks of New York city, and was attached to the Consolidation Commission of Greater New York. He died in Bensonhurst, L. I., Nov. 19, 1895. The transverse roads in Central Park, New York, which made possible the maintenance of that great pleasure-ground in the heart of the metropolis, were conceived and planned by Vaux.

Vaux, Richard, an American penologist; born in Philadelphia, Pa., Dec. 19. 1816; was admitted to the bar in 1836, and for a year was secretary of the American legation in London. He was then sent to Brussels to aid in the reorganization of the American legation. He was recorder of deeds in Philadelphia in 1842–1849. He became widely known by his publication, "Recorder's Decisions" (1845). Not a single decision of his was ever reversed by a higher court. He was appointed an inspector of the Eastern Penitentiary in 1843, and for more than 50 years prepared its annual reports. He was elected mayor of Philadelphia on the Democratic ticket in 1855. He became one of the chief penologists of the United States, and on that subject lectured and prepared a large number of publications. He died in Philadelphia, Pa., March 22, 1895.

Veda, the name of a body of religious writings which the Hindus believe to be divinely inspired. This body primarily consists of four collections of hymns, detached verses, and sacrificial formulas — viz., the Rig Veda, or Veda of praises or hymns; the Sama Veda, or Veda of chants or tunes; the Yajur Veda, or Veda of prayers; and the Atharva Veda, or Veda of the Atharvans — to each of which are attached certain theological prose works called Brahmana, and intended chiefly to elucidate the meaning and application of the sacred texts, especially from a sacrificial point of view. The first three Vedas are often referred to as the "trayi vidya," or threefold science; and they alone must originally have formed the sacred canon, while the fourth Veda, which is less archaic in language, was not recognized till a later period. The Samhitas of the Sama Veda and Yajur Veda are of a purely sacrificial and professional character, being intended to serve as text-books for two of the four chief classes of priests. The Riksamhita, on the other hand,

though likewise assigned to a special class of priests — viz., the invokers (or sacrificers, Hotar), is not a sacrificial text-book in the same narrow sense of the word; but it has rather to be looked on as a collection of all the sacred poetry which was within reach of the collectors.

Vedanta, in India, a system of religion and philosophy professedly founded on the Vedas. It is divided into the Purva mimansa and the Uttara mimansa, or the former and the latter mimansas, which constitute two of the leading darsanas or schools of philosophy. As the first of these is chiefly practical, the Vedanta philosophy is mainly derived from the second. It was founded by Vyasa, and was modified by Sankara, its commentator. The former identified the world with God, and contended earnestly for the reality of the external universe which he held to have been created by God; the later Vedantists maintained that the universe is but an illusion projected by God, and is itself God. The present Vedanta system is Pantheistic. It has many adherents among the more educated Hindus.

Vedder, Henry Clay, an American historian; born in DeRuyter, N. Y., Feb. 26, 1853; was graduated at the University of Rochester in 1873 and at the Rochester Theological Seminary in 1876; was on the editorial staff of "The Examiner," a Baptist weekly, in 1876–1892; and was its editor in 1892–1894. In the latter year he became Professor of Church History at Crozer Theological Seminary. Wrote "History of the Baptists of the Middle States," etc.

Vegetable Chemistry, the department of organic chemistry which investigates the chemical compounds found in vegetables. These compounds are chiefly made up of carbon, hydrogen, oxygen, and nitrogen, but potash, soda, lime, and other substances are occasionally present in small and variable quantities. Sugar, starch, gum, and other distinct compounds existing already formed in plants, and capable of separation without suffering decomposition are called proximate or immediate principles of vegetables. Proximate analysis is the separation of a particular principle from others with which it is mixed. Ultimate analysis consists in the reduction of the proximate principles to their simplest parts. The more important classes of compounds to be obtained from vegetables are acids, alkalis or alkaloids, oils, and resins. Coloring matter, tannin, albumen, gluten, yeast and other substances are also obtained. Of the acids, the chief are acetic acid or vinegar, oxalic, tartaric, and benzoic acids. The alkaloids are organic bases which produce remarkable toxicological effects. During the germination of seeds there is a conversion of starchy matter into sugar. The nutrition of plants may be regarded as depending on solar energy, organic and mineral constituents, and water.

Vegetarianism, the theory and practice of living solely on vegetables.

In strictness, no one is yet entitled to the name of vegetarian, but since it is believed that the eating of flesh is antagonistic to progress on so many grounds, and that reform in food is the basis of all individual reform, the renunciation of flesh in whole or in part is made the test question of vegetarianism, leaving the positive question of what articles in the vegetable kingdom constitute man's proper food to be one of the branches of further study.

Vegetarianism has spread so extensively that in addition to its pledged adherents it has a still greater number who practise abstinence from flesh to a greater or lesser degree in obedience to medical advice, for the curing or relieving of disorders of digestion, gout, and rheumatism. The Catholic Church enjoins abstinence from flesh during Lent, and on some other days during the year. Many religious orders (e. g., the Trappists) abstain wholly from flesh. Brahmins also abstain from flesh and eggs. The Vegetarian Federal Union was formed in 1889. Its offices are in London. To it are affiliated the Vegetarian Society, the London Vegetarian Society, a considerable number of other English societies, and those of the United States (founded in 1850), Germany, and Australia. An international congress was held in Cologne in 1889, and in London in 1890.

Vehmgerichte. See FEMGERICHTE.

Veil, or Vail, that which conceals; a cover to conceal the face; any kind of cloth which is used for intercepting the view, and hiding something; especially a piece of thin cloth or silk stuff, used by women to hide their faces. A veil is an indispensable part of the out-door dress of Eastern ladies, who live secluded from the sight of all men except their own husbands and their nearest relatives.

Vein, in anatomy, one of a number of thin, ramifying, elastic tubes arising in the extremities of the body and proceeding by a more or less direct course to the heart, to which they carry back the blood sent forth by the arteries and transferred to them by the capillaries connecting the two kinds of vessels. They fall under three great divisions: the pulmonary, the systemic veins, and those constituting the portal system. The pulmonary veins consist of four short venous trunks which carry the red blood back from the lungs to the left side of the heart, and which are found two on each side in the root of the corresponding lung. The systemic veins arise by small branches which receive the blood from the capillaries throughout the body and uniting to form larger vessels and then two large venous trunks, the superior and inferior venæ cavæ, finally enter the right auricle of the heart, into which the coronary veins also conduct the blood which nourishes that organ itself. The veins of the portal system bring back the blood from the stomach, the intestines, the spleen, and the pancreas; then joining, they form the great portal vein which ramifies in the surface of the liver, after the manner of an artery, before finally entering the heart by the inferior vena cava.

The anastomoses of veins are much larger and more numerous than those of arteries. In many parts of the body there are two sets, one superior, the other more deeply seated, with frequent communications between the two. Some veins possess valves, while others are destitute of them. The walls of the veins are thinner than those of the arteries, but the veins themselves are less elastic. The total capacity of the veins is much greater than that of the arteries; so much so that the veins alone can hold the mass of blood which in life is distributed over both arteries and veins. While there is a considerable pressure even in the smaller and a greater one in the larger arteries, the pressure in veins is greatest in those of smaller bore, and even in them is but slight; hence, while a pulse is present in the arteries, it is as a rule absent in the veins. The velocity of the blood in the veins is least in those of smaller diameter and greatest in the larger trunks, which is the reverse of the rule in arteries. When a vein is cut the flow from the distal end — i. e., from the end nearest the capillaries — is continuous, but the blood is ejected with little force.

In botany, one of the ramifications of the petiole among the cellular tissue of a leaf, of which they constitute the framework. They are of fibro-vascular tissue, and carry sap into the parenchyma.

In geology, a crack in a rock filled up by substances different from the rock. These may be either earthy or metallic. In very many cases the fissures have been produced by volcanic or earthquake action.

Velasquez, Diego Rodriguez de Silva y, a Spanish painter; born of a Portuguese family in Seville, June 5, 1599. In 1622 he went to Madrid, where, in the year following, his portrait of Olivarez procured him the patronage of Philip IV., a wonderful portrait of whom at once established the fame of the painter. As court painter he produced many portraits of the royal family and of illustrious visitors, the latter including one of Charles I. of England, which has been lost. Velasquez formed a cordial friendship with Rubens during the diplomatic visit of the Fleming to Madrid in 1628. In 1629–1631 he made a tour in Italy, visiting Rome, Naples, Florence, Venice, etc., and being received everywhere with the highest distinction. On his return to Madrid he made rapid progress in the royal favor; was made royal Ayuda de Camera or chamberlain (1643); his studio was removed to the palace, and there in friendly converse with the painter the king spent much of his leisure.

In 1648 he was sent by the king to Italy, commissioned to buy works of art. At Rome he painted the portrait of Innocent X., which is now the gem of the Doria gallery. He was subsequently appointed Aposentador Mayor, or royal seneschal, and in 1656 received the Cross of Santiago, an honor till then reserved for the highest nobility. But Velasquez did not thrive under his load of honors; his health gave way in the service of the court; and he died in Madrid, Aug. 7, 1660.

Velasquez, Diego de, a Spanish explorer; born in Cuellar, Spain, about 1460; accompanied Columbus to Espanola in 1493, and there distinguished himself in the wars against the Indians and amassed a fortune. In 1511 Diego Columbus appointed him to conduct an expedition against Cuba, and in the latter part of the year he landed on the E. shore at the head of 300 troops. He quickly conquered Hatuey the cacique, and put Pamfilo de Narvaez, his lieutenant, in active command. The unarmed natives were soon overcome, and subjected to slavery, in which they soon perished. Later Velasquez established Matanzas, Trinidad, Santiago, and other places. In 1517 he joined Cordova in an expedition after slaves and they discovered Yucatan. Soon after, on learning of the rich Aztec empire, he fitted out an expedition for its conquest and placed Cortez in command. When the latter had reached the site of Vera Cruz he took independent command. Pamfilo de Narvaez was sent to capture him in 1520, but was defeated. Velasquez died in Havana in 1522 or 1523.

Velocipede, a word applied to any kind of carriage driven by the feet and formerly to bicycles and tricycles. The name was first used in France, toward the end of the 18th century, when riding on the dandy horse became popular. The two wheels of the dandy horse were of equal size, connected by a bar, on which a saddle was placed, and astride of which the rider sat. The impetus was given by the rider's feet touching the ground, alternately pushing and being raised. Self-propulsion was next attempted by pulling levers with the hands or treading with the feet. In this kind of velocipede there were three wheels; but it never became very popular, on account of the labor.

The velocipede known as a safety bicycle has two small wheels of the same size (or nearly so), the rider sitting well back from the front wheel, and thus possessing greater security from falling forward, and the requisite velocity is attained from the small wheels by the principle of "gearing up," adopted from the tricycle, the various classes of machines thus appropriating improvements from each other.

Velocity, in its full significance, involves the notion of direction of motion as well as that of speed or rate of motion. The motion of speed is a very familiar one. In measuring it we assume the possibility of measuring space and time; and the unit of speed is that speed which a moving point would need to have in order to pass over the chosen unit of space in a unit of time. Again, since at every instant the moving point must be moving in a definite direction, as well as with a definite speed, it follows that velocity also is an instantaneous property. If it does not change from instant to instant, the velocity is constant, and the point moves in a straight line with constant speed.

Velvet, one of the most familiar of what are known as pile fabrics. It is produced by adding to the usual warp and weft threads of plain weaving an aditional row of warp yarns which are woven into the ground of the cloth and passed over wires on the surface. In the case of a loop pile the wires are simply drawn out, but for velvet or other cut pile a knife is first passed along a groove on the top of each wire to cut the pile before the wire is withdrawn. Real velvet is made entirely of silk, but a kind is made with a silk face on a cotton basis. The name velveteen is, however, extended to fabrics in which silk and cotton are mixed throughout. Modern velvets are largely made at Lyons and Crefeld.

Venable, Francis Preston, an American chemist; born in Prince Edward co., Va., Nov. 17, 1856; was graduated at the University of Virginia in 1879, and studied at the Uni-

versities of Bonn, Gottingen, and Berlin successively in 1879–1880, 1881, and 1889. In 1900 he was made president of the University of North Carolina and its Professor of Chemistry.

Venable, William Henry, an American author; born in Warren co., O., April 29, 1836. He published: "A History of the United States," "Footprints of the Pioneers in the Ohio Valley," "Dream of Empire," etc.

Vendace, a species of fish found in rivers and lakes of Sweden, and in the Castle Loch at Lochmaben in Scotland. It is popularly said to have been introduced at Lochmaben by Queen Mary; but the statement rests on no authority. Like most of its congeners, the vendace is a palatable fish. Its food consists chiefly of minute crustaceans. It generally swims in shoals, often with a remarkable separation of the sexes. It attains a length of 6–8 inches.

Vendetta, a particular case of the wider custom of blood-feud, by which every member of a stock, or body of men between whom blood relationship subsists, is bound to aid in taking vengeance (on the offender if possible, or on the stock to which he belongs) for a personal injury done to any of his kinsmen. The vendetta which exists in Corsica, and to a less extent in Sicily, Sardinia, and Calabria, is the practice of taking vengeance on the murderer of a relative; and this duty is imposed primarily on the next of kin, but in a less degree on all the relatives of the murdered individual. If the murderer succeeds in eluding his pursuers, then vengeance may be taken on any of his relatives. Between 1770 and 1800, when the vendetta was at its height, some 7,000 murders are said to have occurred in Corsica owing to this practice of private vengeance. A law prohibiting the carrying of arms did much to put a stop to the vendetta, but the law is now repealed with the result that the number of murders is on the increase. In Kentucky also many murders have been caused by feuds of the vendetta class.

Veneer, beautifully grained or figured woods which are, owing to their cost, rarely used in the form of solid boards, but cut into thin slices. Veneers are cut from almost all the finer woods, both native and foreign, including mahogany, birch, rosewood, ebony, satinwood, cedar, tulipwood, Hungarian ash, sycamore, and others, veneers being used on pianos and other musical instruments, on furniture, doors, and so on. Some veneers are sawed and some are cut from the log by means of a knife.

Veneers may be made of almost any degree of thinness, as, say, one one-hundredth of an inch. They are most commonly made for the many uses to which they are put, in sawed veneers of a thickness of 26 to 30 to the inch, and in cut veneers of a thickness averaging 30 to the inch.

Venetian Architecture, a variety of the Gothic style, of which examples are found mainly in palaces which form a class apart among buildings constructed in the Italian Gothic style. In these palaces the arches of the windows and halls rest upon shafts, and terminate in intricate designs of open tracery work, as in the case of the celebrated Palace of the Doges. This style of ornamentation is employed both in churches and palaces.

Venetian School, a school of painting which arose and declined in the 16th century, and of which Titian (1477–1576) is considered the founder. Among its other masters were Giorgione (1477–1511), Tintoretto (1512–1594), and Paul Veronese (1528–1581). The distinguishing characteristics of this school were a mastery of color and a consummate knowledge of chiaro-oscuro.

Venezuela, a republic in the N. W. part of South America; bounded on the N. by the Caribbean Sea; on the W. by the United States of Colombia; on the S. by Brazil and on the E. by British Guiana.

The present distribution, according to the constitution of 1901, is into 20 States, a Federal district, 2 national settlements and 4 territories. The area of the country claimed and occupied by Venezuela is 593,943 square miles; pop. 2,323,527. The capital is Caracas; pop. 72,429.

The coast line extending from E. to W.— from the delta of the Orinoco to

the boundary of the United States of Colombia — is 1,584 miles in length. Venezuela comprises the plains of the Orinoco basin, in continuation of the Amazon valley around the mountains of Guiana, partly separated from the Caribbean Sea by the N. E. range of the Andes. The mountain system of the Andes extends N. and E. into Venezuela from Colombia. Between the N. and E. ranges is the low country of Lake Maracaibo basin. The country E. of this basin is an extensive mountain tract, some of the peaks reaching above the limit of perpetual snow. These mountains extend along the N. coast, in a double range, having fertile valleys between. There are other mountain ranges in the S. and E.

The climate is tropical, and very hot in the valleys, the regions of the Lower Maracaibo basin being the hottest found on the W. continent. Above an altitude of 2,000 feet the climate becomes temperate, and cold above 7,000 feet. Much of the mountainous and plateau country has an elevation between these altitudes.

Large regions of Venezuela, especially in the S. W. comprising the Upper Orinoco basin and plains, are still unexplored, much of the country being densely covered with forests, penetrable only with great difficulty. Fully one-half of Venezuela is unbroken forest. These forests abound in wild animals, insects, birds, and reptiles. There are many species of monkeys, all the varieties of South American Felidæ, tapirs, deer, ant eaters, the spectacled bear, the cabaiai sloths, etc. Aquatic birds in enormous flocks are found in the swamps, lakes, and rivers. Tortoises are plentiful, 50,000,000 eggs annually being taken for their oil. Manatees and porpoises ascend the Orinoco. The rivers, bays, and lakes abound in fish of many varieties.

Agriculture is the principal industry, but is mostly confined to the N. mountainous belt, where the greater part of the population is concentrated. The principal products are coffee, cacao, sugar cane, tobacco, maize, cotton, and tropical fruits. Wheat is cultivated in some of the higher plains. Indigenous products, cultivated or gathered, include the tonka bean, rubber, copal, sarsaparilla, cinchona, many beautiful cabinet woods, dyewoods, herbs, drugs, etc. The agricultural lands amount to about 135,000 square miles. Great herds of sheep, goats, and cattle are raised on the table-lands and mountain slopes, the export of hides and skins forming an important industry of the country.

Venezuela has important gold mines. The El Callao mines have a maximum annual yield of over $3,000,000. Copper, coal, salt, asphalt, silver, lead, tin, iron, sulphur, and petroleum are also found. Guano is exported, and bitumen is found in the river deltas and lake basins.

In 1897–1898 the imports amounted in value to $8,689,840, and in the preceding year the exports aggregated $18,547,700. In 1898 the United States imported from Venezuela commodities to the value of $7,722,564, and exported thereto various articles aggregating $2,704,908. Among the United States imports was coffee to the value of $6,171,043. Coffee constitutes about three-fourths of the entire export trade, and nearly six-sevenths of the import trade is subject to duty.

The country is poorly provided with railroads. In 1899 there were 529 miles in operation; in 1898, 3,382 miles of telegraph line, with 113 telegraph offices, two telephone companies, and 214 postoffices. The common roads are mostly execrable. The chief channels of intercommunication are the rivers.

The government of Venezuela is a federative republic, having a President, elected for six years, and a Congress of two houses. The government is modeled after that of the United States, but the administration is unstable, and changes and revolutions have been frequent.

The State religion is Roman Catholic, but all other religions are freely tolerated.

The E. coast of Venezuela was discovered by Columbus in 1498; Ojeda and Vespucci followed in 1499, and, entering Lake Maracaibo, they found an Indian village constructed on piles, to prevent the evil effects of inundation, and they named the place Venezuela, or Little Venice, a name which afterward spread to the whole coun-

try. The first settlement was made at Cumana in 1520 by the Spaniards, and Venezuela remained subject to Spain till it claimed independence in 1811. It then returned to allegiance to Spain, but again revolted in 1813, and, forming with New Granada and Ecuador the republic of Colombia, was declared independent in 1819. In 1830 Venezuela withdrew from the other members of the Free State founded by Simon Bolivar and declared itself a federal republic. The charter of fundamental laws dates from 1830, was amended in 1864 and 1881, and is quite similar to the Constitution of the United States of America, but permits in theory only more independence in local government.

Venezuelan Blockade, The. In the year 1902 and the early part of 1903 Venezuela was the world's storm center, owing to the sanguinary revolution which was fought out there, followed by the hostile operations of Great Britain, Germany, and Italy, on the Venezuelan coast. The revolution had its origin in the antagonism of the wealthy and aristocratic element of the republic to the President, Cipriani Castro, a man of humble Indian extraction, who by force of his native energy, persistence and courage, achieved the chief office of state. Broadly speaking, Castro was supported by the popular element, and his success in the field was largely due to Indian troops, who followed him from their mountain homes, and stood for him in good and ill fortune, while the mass of the citizens accepted matters quietly, hoping that Castro would gather about him, men who would assist in honestly directing affairs.

Matos, who was the wealthiest man in Venezuela, and who aspired to the Presidency himself, was the leader of the opposite party. Matos bought the British steamer, Ban Righ, turned her into a warship, loaded her with rapid-firing guns, thousands of rifles and large quantities of ammunition, named her the Bolivar, and started her for Venezuela. There an army was soon formed, and a fierce struggle began, which continued with varying fortune up to the decisive battle of La Victoria, in October, 1902. Up to that time Castro frequently got the worst of the conflict. The leanings of Germany, England and other European countries were favorable to Matos, and the United States government also, while not taking any stand officially, let it be understood that the success of the revolution would be agreeable to Washington. Castro, brought to bay, met the enemy under Mendoza at La Victoria, in early October, 1902, and a battle was begun which lasted for several days, which was signalized by desperate hand-to-hand fighting, and which resulted, on October 17, in the complete and final defeat of the rebels. At the head of his Indians, rifle in hand, Castro plunged into the fray, and the victory was largely due to his personal valor. Of the rebels 1,600 were killed and wounded, and of Castro's men 1,400. Matos fled to Curacao. The revolution was hardly over when Germany and England made a demand on Venezuela for the payment of certain claims. The German claims were largely meritorious. The Venezuelan railroads, steam and electric, were English or German; the harbor improvements, English; the breweries, German entirely; the cable, French; the telephone lines, English or American; the waterworks, Belgian; and three-fourths of the concessions for mining and products of the great forests, were owned in Europe.

As Castro had exhausted his resources he was unable to satisfy the demands made upon him. On December 9, 1902, the British and Germans seized the Venezuelan fleet, the Germans sinking in the night three of the gunboats which they had taken, giving as a reason for this action that the vessels were unseaworthy. Italy sent a cruiser to join in the hostile proceedings, and afterward ordered another vessel to assist in the blockade, which was enforced with the greatest harshness against Americans, while Dutch and British traders from the neighboring islands carried on with little guise of secrecy and entire immunity a blockade-running traffic. As the foreign trade with Venezuela is chiefly American, the interests of American merchants and shipowners were struck at by the blockade much more severely than those of Venezuela, where the people had ample means for subsistence from the products of

the soil, and could very easily exist for a considerable time without imported goods, which were also obtainable, however, by land and lake traffic with Colombia. The British, Germans and Italians seemed to take special satisfaction in breaking up the Venezuelan trade of the United States, and the American steamer Caracas, which had started from New York before the blockade, was turned away from La Guayra with half of its cargo still on board.

President Castro appealed to the American government to interfere in his behalf, and public opinion in the United States became greatly stirred over the highhanded course of the European governments concerned. It then transpired that before taking action Germany had consulted the Washington authorities, and had been told that the United States would not interfere, provided there should be no permanent occupation of Venezuelan territory. The American people were so aroused, however, that it was deemed best to have an American naval force near the scene of action to watch the further proceedings of the Europeans.

Venezuelans, probably for the first time since Bolivar went to the tomb, were almost united. Castro and his enemies, with a few exceptions, laid aside their mutual animosities and rallied for the defense of the country. A large and effective force was organized to repel invasion, but as the Europeans did not make any attempt at occupation, this army was not called on to prove its prowess. Puerto Cabello was shelled by the allies with but little resulting damage, and the only incident of the "war," of a really warlike character, was the brave defense by the Venezuelans of Fort San Carlos, near Maracaibo, which was bombarded by the Germans and a number of its defenders killed.

The European governments, apparently alarmed by the rising tide of American sentiment, appealed to President Roosevelt to act as arbitrator of their claims against Venezuela. The President, after consideration, declined, and suggested the Hague Arbitration Tribunal. The President also permitted Mr. Bowen, the American minister at Caracas, to act in behalf of Venezuela in coming to terms with the hostile powers. Mr. Bowen came to Washington, and after consultation with the representatives of Great Britain, Germany and Italy, terms of agreement were arrived at, and the blockade was withdrawn. Under the arrangement Venezuela sets aside 30 per cent. of the customs receipts at La Guayra and Puerto Cabello for the payment of the claims, after they shall all have been adjudicated, when pro rata payments are to begin and continue monthly. In case of failure on the part of Venezuela to carry out this arrangement Belgium is to send agents to take charge of the customs at the ports named, and distribute the funds as agreed. The arrangement leaves to Venezuela for the support of the government all the customs at the important port of Maracaibo, and other ports, besides the major share at La Guayra and Puerto Cabello. The question whether Great Britain, Germany, and Italy are to have precedence over other claimants in order of payment is to be decided by the Hague Tribunal. The full list of nations with claims against Venezuela includes the United States, Great Britain, France, Germany, Sweden and Norway, Italy, Belgium, The Netherlands, and Spain. Notwithstanding revolutions, Venezuela's debts are small compared with her resources, and with the obligations of some other Spanish-American states, and under proper financial administration a settlement of all just claims would not be burdensome to the republic. The people of Venezuela are weary of the everlasting burden of internecine strife and bloodshed, and they yearn for peace. See Bowen, H. C.; Castro, C.; Loomis.

Venezuelan Boundary Dispute. In 1855 a crisis arose between Great Britain and Venezuela regarding the boundary line separating the latter country from British Guiana — a question which had been long in dispute. The controversy dated back to 1814, when Great Britain acquired by treaty with the Netherlands the provinces of Demerara, Essequibo, and Bernice. Venezuela originally claimed her limits to be those of the captaincy-general of 1810, but contented herself with claiming the line of the Essequi-

Venezuelan Boundary

bo river as the true boundary. Great Britain apparently acquiesced till 1840, when she commissioned Sir R. Schomburgk to lay out the boundaries, which he proceeded to do by including a large area which had before been considered by Venezuela a portion of her domain, and to the possession of which by Great Britain a vigorous protest was entered. After much diplomatic negotiation the monuments set up by Schomburgk were removed by the order of Lord Aberdeen. Other boundaries were from time to time suggested, but none agreed on, till finally, in 1886, Great Britain returned to her contention of 1840, and claimed all the territory within the Schomburgk line. The controversy continued till 1894, when a Venezuelan force entered the disputed territory and raised the flag of the latter country at Yuruan. The following year the British police removed the flag, for which they were arrested but finally released, Great Britain setting up a demand for reparation somewhat in the nature of an ultimatum.

The United States became a party to the dispute by the act of Congress directing the President to urge Great Britain to submit to arbitration the question whether Venezuela was entitled to the territory between the Essequibo and the Orinoco. In his annual message to Congress, Dec. 3, 1895, President Cleveland called attention to the boundary controversy and the representations made by the United States government to that of Great Britain with a view of securing the submission of the dispute to arbitration. On the 17th he sent a special message to Congress, accompanied by the answer of the British government to the representations mentioned, and a recommendation that Congress authorize the appointment of a commission to determine the divisional line between Venezuela and British Guiana. The message created intense excitement throughout Europe and America. Both Houses of Congress passed a commission bill unanimously and indulged in much talk of war. Under the bill the President announced, Jan. 1, 1896, the appointment of the following commissioners: David J. Brewer, Associate-Justice of the United States Supreme Court; Richard H. Alvey, Chief-Justice of the Court of Appeals of the District of Columbia; Andrew D. White, ex-United States minister to Russia; Frederick R. Coudert; and Daniel C. Gilman, president of Johns Hopkins University. Subsequently the commission organized and chose Justice Brewer its president.

The commission invited the governments of Venezuela and Great Britain to formulate and present to it their respective cases in support of their claims. The invitation was complied with by both governments. Independently of these cases the commission gathered a great mass of evidence bearing on the claims, and continued its sittings till Feb. 27, 1897, when, Venezuela and Great Britain having signed a treaty providing for the submission of the claims to arbitration it considered its work at an end, made its report to the President, and terminated its existence. The treaty between Venezuela and Great Britain was signed in Washington, D. C., on Feb. 2, 1897, and provided for the appointment of an arbitration tribunal, to determine the boundary line, consisting of five jurists, the two on the part of Venezuela being Chief-Justice Fuller and Associate-Justice Brewer of the United States Supreme Court; the two on the part of Great Britain being the Rt. Hon. Baron Herschell and the Hon. Sir Richard Henn Collins; and the fifth to be selected by the four jurists nominated in the treaty, or, in the event of their failure to agree, by the King of Norway and Sweden, the fifth jurist to be the president of the tribunal. The treaty provided that the tribunal should sit in Paris, France. The tribunal was completed by the selection of Professor Maertens, a distinguished Russian jurist, Professor of International Law in the University of St. Petersburg, and legal writer, as the fifth member and president. The award of the tribunal, which was delivered Oct. 3, 1899, gave Great Britain the Schomburgk line, with the exception of Barima Point, at the mouth of the Orinoco, and a strip of territory between the Wenamu and Cuyuni rivers; but it was decided that the mouth of the Orinoco should be

open to the British, and both banks of a part of the Cuyuni, where the Schomburgk line had given them only one bank.

Venice, a celebrated city of Northeastern Italy, capital of the province of the same name, and of the former Venetian republic; near the N. extremity of the Adriatic, 70 miles W. of Trieste. The city is built entirely on piles driven into about 80 small islands situated in the shallow waters of the Bay of Venice, and known as the lagoons, a kind of lake shut out from the deeper water of the Adriatic Sea, by a ridge or long but interrupted belt of sand and earth called the Littorale, which extends about 2 miles from the shore, shutting in all the islands and lagoons from the Adriatic Sea. A modern viaduct, supported on 222 arches, part of the Verona and Venice railway, has lately united the continent with the Littorale or protecting beach of the city. The 80 islands on which the city is built are separated from each other by narrow channels, which serve the purpose of thoroughfares, being constantly traversed by gondolas, light river boats, answering the purpose of cabs and omnibuses, and depositing passengers at any house or building at which they may desire to alight. The whole series of islands are connected with each other by means of 450 bridges. Some of the islands are large enough to have what may be regarded as two or three short streets with intersecting lanes or alleys, but in general they only present blocks of buildings, having river fronts, according to the direction of the canal, or the water frontage of the isle. The longest and most important street in Venice, the Merceria, is only 15 feet wide; carriages and horses are unknown in Venice, the gondola being the universal means of transit for those going from shop to shop or house to house.

Venice is nearly 8 miles in circumference, contains about 28,000 houses, and is divided into two parts by the Grand Canal, or Canal Grande. Over this canal there is only one bridge, that of the Rialto, the most magnificent bridge in Venice, consisting of a single arch 90 feet in span and 24 feet in height, built of marble in 1500. Two ranges of shops divide its upper surface into three narrow parallel streets. Venice is regarded as one of the finest cities in Europe, and was for many centuries the capital of the first maritime and commercial state in the world. It consequently contains proportionally a larger number of public buildings and palatial residences than any other city in Europe. Few cities in Italy are richer in works of pictorial art than Venice; some of the masterpieces of Titian, Tintoretto, Paul Veronese, and the other great chiefs of the Venetian school, are to be found in all the churches of this extraordinary city. The library (a fine marble structure, containing 120,000 volumes and 10,000 MSS.), the museum, and cabinet of curiosities of St. Mark's, are regarded as the finest in Europe. The arsenal and dockyard are esteemed as worthy objects of attraction; the latter, in the palmy days of Venice, contained 40 line-of-battle ships, 12 of them three-deckers, with arms for 150,000 men, 4,000 pieces of ordnance, and an immense amount of naval and military stores, with provisions and every requisite to maintain its reputation as one of the first commercial and maritime states in the world. For many centuries, in the Middle Ages, Venice had the monopoly of all the glass sold to Europe; but this has long since passed away, and its chief trade is now confined to the manufacture of mirrors, jewelry, artificial pearls, silks, velvets and porcelain. The foundation of Venice was laid in 421, as a place of refuge during the invasion of Italy by Attila. The prosperity and power of Venice began with the dawn of the 9th century. In the reign of Giovanni, in 1620, gold was first coined in Venice, the coin from the ducal dignity of the prince being called a ducat. Venice at this time was at the height of its glory as the first maritime and commercial state in Europe, as the most prosperous of nations, and as a leading military and political power. The greatest part of the 15th century was passed in repeated wars with the Turks, who captured many of her Greek and Ionian islands, especially Cyprus, and large portions of Dalmatia. When the commerce of Venice became annihilated by the discovery of the route to India by the

Cape, petty quarrels and political jealousies occupied the Venetians, instead of commerce and dominion. From this time the prestige of Venice declined, and her power gradually sank as a state till, on the occupation of Italy by the armies of the French Republic, Venice — after an independent existence of 1,300 years — without striking a blow became a part of Napoleon's Cisalpine republic, and afterward of the Italian kingdom. At the Congress of Vienna, 1815, Venice was annexed to Austria. The city and territory were ceded to, and incorporated with, the kingdom of Italy in 1866. Pop. commune, 157,099. In 1902 and 1903 great consternation was caused in Venice by the fall of the Campanile, and evidence that other venerable buildings were in danger of collapse.

Ventilation, the artificial renewal of the air within a confined space, such as a mine or the interior of a building or vessel. This is required when the air is subject to contamination, as by products of respiration or by admixture with other gases. In a mine it is necessary to renew the air in order to carry off the products of respiration of men and horses, the products of combustion of lamps, and, in coal mines, the inflammable gas which oozes from coal or rushes from "blowers," and causes risk of explosions. In general there are two leading methods of ventilation: (a) causing air to go out at the outlet, and allowing air to find its way in by any inlet (vacuum method); (b) forcing air in and allowing it to find its way out (plenum method). The advantage of the second method is that it is known whence the air comes which is forced in, and the access of air from other sources tends to be prevented by the excess of pressure within the confined space. In most cases, however, the vacuum method, on account of its simplicity, is much more easily applied. In regard to buildings and dwellings the greater care now taken in making doors and windows air-tight makes it more necessary than it formerly was to provide proper means of removing vitiated air and supplying fresh.

Ventricles of the Heart, two of the four cavities into which the heart is divided. They are called the right and the left ventricles. The right or anterior ventricle occupies most of the anterior surface of the right border and a smaller part of the posterior surface. The upper and left angle, called the arterial cone or infundibulum, is prolonged in a conical form to the commencement of the pulmonary artery. The muscular wall of the right ventricle is thickest at the base, and becomes thinner toward the apex. At its base are two orifices: The auriculo-ventricular orifice, protected by the tricuspid valve, and that of the pulmonary artery, protected by the semi-lunar or sigmoid valves. The left or posterior ventricle occupies the left border of the heart, about a third of its extent appearing on the anterior surface, the rest being visible behind. It is longer and narrower than the right ventricle, and oval in cross section. Its walls, except near the apex, are three times as thick as those of the right ventricle. Its two orifices are very close together. One is the left auricular, the other the aortic opening, the former protected by the bicuspid or mitral, the latter by another semilunar or sigmoid valve, while the two are separated only by the attachment of the anterior segment of the mitral valve. The ventricles receive the blood from the auricles, and transmit it to the lungs and through the aorta to the body generally.

Ventriloquism, the art of speaking in such a way as to cause a hearer to believe that the sound comes, not from the person speaking, but from a different source. The name originated from the erroneous supposition that the sounds uttered were formed in the belly, whereas practice alone is necessary to carry this act of illusion to a high degree of perfection. The sounds are formed by the ordinary vocal organs — the larynx, the palate, the tongue, the lips, etc. The art of the ventriloquist consists merely in this: After drawing a long breath he breathes it out slowly and gradually, dexterously modifying and diminishing the sound of the voice; besides this he moves his lips as little as possible, and by various contrivances diverts the attention of his auditors. This art was known to the ancient Greeks.

Venue, in law, the place where an action is laid. In the United States, the county in which the trial of a particular cause takes place is said to be the venue of that trial. To lay a venue is to allege or fix a place of trial. To pray a change of venue is to petition that a cause may be tried before another judge or in another place than the one first selected.

Venus, in Roman mythology, the goddess of beauty and love, and more especially of sensual love, her principal seats being the island of Cyprus and Cythera. The Romans regarded her as the progenitress of their nation, which was fabled to have sprung from Æneas, the offspring of her union with the Trojan Anchises. She was married to Vulcan, but was not remarkable for fidelity to her husband, and her amour with Adonis has been celebrated by classic poets and by Shakespeare. The rose, myrtle, and apple were sacred to her; among birds, the dove, swan, and sparrow were her favorites. She is generally represented with her son Cupid in a chariot drawn by doves, or, at other times, by swans or sparrows. Among the most famous statues of Venus are the Venus of Cnidus, by Praxiteles (of which the Venus de Medici, found at Tivoli, is supposed to be a copy), the Venus of Capua, and the Venus of Milo or Milos, found in the island of Milos. In the best days of art she was always represented as draped, in later times nude.

Venus, in astronomy, the second of the known inferior planets, if the arrangement be made according to their relative distances from the sun. With the exception of the moon Venus is nearest of all the heavenly bodies to the earth, and, when near its extreme E. or W. elongation, is much brighter than even the largest of the fixed stars. It stands first in this respect also of all the planets, the nearest approach to it being that made at certain times by Jupiter. When Venus is at its maximum of brightness, it can sometimes be seen by the naked eye in sunlight within an hour of noon. Its comparative nearness to the sun causes it to be for six months a morning and for the other six months an evening star. Its diameter is about 7,826 miles, or about 93 miles less than that of the earth. Were man placed on the surface of Venus, the earth would look a trifle larger and brighter than Venus does to us in our sky. The mass of Venus is about three-quarters that of the earth, or 1-425000 that of the sun. While a stone falling toward the earth passes through a little more than 16 feet in the first second, it would, if falling to the surface of Venus, pass through about 13 feet only in the same time. The excessive brightness of Venus makes the time of its rotation somewhat doubtful; it is provisionally placed at 23 hours 21 minutes. Its mean distance from the sun is 67,000,000, its greatest distance 67,500,000, and its least 66,600,000 miles. These numbers show that its orbit departs but slightly from a circle. Its periodic time is 224.7 mean solar days. Observation on the passage of the planet over the sun's disk is the best method of ascertaining the distance of the great luminary; it has also revealed the fact that Venus has an atmosphere, but its composition is as yet uncertain. Old observers thought they detected a satellite; modern astronomers have not confirmed this view and believe it to have been founded on optical delusion.

Veragua, Duke of, a title conferred on the lineal descendants of Christopher Columbus. It was first borne by Luis Columbus in 1536. From him it passed to Diego Columbus, the great-grandson of the famous discoverer. He died childless in 1578, and the male line of Columbus came to an end. A lawsuit for the succession to the title followed, and after 30 years was settled in favor of the descendants of Isabel, sister of Luis Columbus. This line coming to an end in 1733, the title was, after more litigation, settled on the descendants of Francesca, sister of the Diego Columbus who died in 1578. The Duke of Veragua, 13th in direct descent from Christopher Columbus, was born in Madrid, Spain, in 1837. In 1893, with his wife, he visited the United States on the invitation of the government, and witnessed the opening ceremonies of the Columbian Exposition. He was everywhere received with honors as a representative of the family. He died in 1910.

Verbena, a genus of plants consisting of numerous species of herbs or shrubs which inhabit the tropical and sub-tropical parts of the world; most numerous in America, more rare in Asia and Africa. The genus is more remarkable for the beauty of a number of the species, which under cultivation have given origin to numerous varieties greatly prized for their brilliantly colored flowers, than for other virtues, though formerly the English species was credited with potent medicinal qualities.

Verdi, Giuseppe, an Italian composer; born in Roncole near Busseto, Italy, Oct. 9, 1813. His first opera, produced in Milan, "Oberto, Conte di S. Bonifacio," is chiefly indebted to Bellini. "Nabucodonosor" (1842) was his first hit, and in the next year "I Lombardi" was even more successful — partly owing to the revolutionary feeling which in no small degree was to help him to his future high position. "Ernani," produced at Venice in 1844, also scored a success, owing to the republican sentiment in the libretto, which was adapted from Victor Hugo's "Hernani." Many works followed in quick succession, each rousing the enthusiasm of the audiences chiefly when an opportunity was afforded them of expressing their feelings against the Austrian rule. Only with his 16th opera did Verdi win the supremacy when there were no longer any living competitors; and "Rigoletto" (1851), "Il Trovatore," and "La Traviata" (1853) must be called the best, as they are the last of the Italian opera school. Only now begins the interest which the student of musical history finds in Verdi's life. Hitherto he had proved a good man struggling with adversity and poverty, a successful composer ambitious to succeed to the vacant throne of Italian opera. But the keen insight into dramatic necessity which had gradually developed and had given such force to otherwise unimportant scenes in earlier operas also showed him the insufficiency of the means hitherto at the disposal of Italian composers, and from time to time he had tried to learn the lessons taught in the French Grand Opera school, but with poor success. Now a longer interval seemed to promise a more careful, a more ambitious work, and when "Aida" was produced at Cairo (1871) it was at once acknowledged that a revolution had taken place in Verdi's mind and method, which 16 years later exhibited still greater results, when "Othello" was produced at Milan in 1887. A comic opera, "Falstaff," was produced in 1893 by the composer; a Requiem Mass (1874) is his only important non-operatic work. He died in Milan, Italy, Jan. 27, 1901.

Vereshtchagin, Vassili, a celebrated Russian war painter; born at Tcherepovets, Novgorod, Oct. 26, 1842; killed in the blowing up of the "Petropavlovsk" at Port Arthur, during the Russo-Japanese War, April 13, 1904. He came into prominence with his pictures of the Russo-Turkish War of 1877-78, and sought to denounce warfare, by depicting its horrors with grim realism. Specimens of his work are in the Brooklyn Institute, New York city. He held repeated exhibitions in the United States, and a number of his works are in private possession here.

Vergennes, Charles Gravier, a French statesman; born in Dijon, France, Dec. 28, 1717. After a diplomatic career in Germany, Turkey, and Sweden, he became Louis XIV.'s minister of foreign affairs and merited the lasting gratitude of Americans by the energetic manner in which he assisted the United States in gaining independence. Died Feb. 13, 1787.

Vergil, or **Virgil** (Publius Vergilius Maro), Latin poet; born in Andes near Mantua, Oct. 15, 70 B. C. The name Vergilius is apparently Celtic, and in Vergil's Celtic blood modern critics have found the origin of his romantic and melancholy temper, and of the deep sense of natural beauty and the spiritual meaning of nature, in which he stands alone among Greek and Latin poets.

The boy was sent to school at Cremona and Milan, and at the age of 16 went to Rome and studied rhetoric and philosophy under the best teachers of the time.

In 37 B. C. the "Eclogues," a collection of 10 pastorals modelled on those of Theocritus, were published, and received with unexampled enthusiasm.

Soon afterward Vergil withdrew from Rome to Campania. The munificence of Mæcenas had placed him in easy and even affluent circumstances. He had a villa at Naples, and a country house near Nola, within easy reach of it; and he seems to have lived almost entirely in this neighborhood during the seven years in which he was engaged on the composition of the "Georgics," or "Art of Husbandry." This poem, which is in four books, and deals with tillage and pasturage, the cultivation of trees, especially the vine and olive, and the breeding of horses, cattle, and bees, appeared in 30 B. C., and confirmed Vergil's position as the foremost poet of the age. The remaining 11 years of his life were devoted to a larger and in some respects more uncongenial task, undertaken at the urgent and repeated request of the emperor, the composition of a great national epic. During these years he lived a secluded life, chiefly in Campania and Sicily; he seems also to have traveled in Greece, and to have paid occasional visits to Rome, where he had a house in the fashionable quarter on the Esquiline. The subject he chose was the story of Æneas, the Trojan, the legendary founder of the Roman nation and of the Julian family, from the fall of Troy to his arrival in Italy, his wars and alliances with the native Italian races, and his final establishment in his new kingdom. By 19 B. C. the "Æneid" was practically completed, but Vergil had set apart three years more for its final revision. In the summer of that year he left Italy with the intention of traveling in Greece and Asia; but at Athens he fell ill, and returned only to die at Brundusium a few days after landing, on Sept. 21. He had almost completed his 51st year. In his last illness he expressed a wish to burn the "Æneid," and he left directions to that effect in his will. By the command of Augustus these directions were disobeyed, and it was published as we now possess it. At his own wish he was buried at Naples, on the road to Pozzuoli, his tomb for many hundred years after being worshiped as a sacred place.

The reputation of Vergil from his own time till now is probably unparalleled in its continuity. His works were established classics even in his lifetime, and soon after his death had become, as they still remain, the school books of Western Europe.

Vermicelli, an Italian mixture prepared of flour, cheese, yolks of eggs, sugar, and saffron, manufactured in the form of long slender tubes or threads, and so named from their worm-like appearance. Vermicelli differs from macaroni only in being made in smaller tubes. Both are prepared in perfection at Naples, where they are a favorite dish with all classes, and form a principal item in the food of the population. Vermicelli is used in soups, broths, etc.

Vermiform Appendage, or **Vermiform Appendix,** so far as is known, is peculiar to man, certain of the higher apes, and the wombat. The vermiform appendage in the human species hangs from the cæcum, which is the point of junction between the smaller intestines and the ascending colon. In size and shape it resembles a man's little finger. Its lining membrane secretes a mucus which in health constantly wells up into the lower end of the colon where the ileocæcal valve opens, and this mucus acts as a lubricant to the valve. Sometimes the appendix becomes ingested with fæcal matter and serious and even fatal inflammation results.

Vermont, a State in the North Atlantic Division of the North American Union; bounded by Quebec, New Hampshire, Massachusetts, and New York; admitted to the Union, March 4, 1791; number of counties, 14; capital, Montpelier; area, 9,563 square miles; pop. (1890) 332,422; (1900) 343,641; (1910) 355,956.

The surface of the State is mountainous, being traversed from N. to S. by the Green Mountains, which culminate in Mansfield Mountain, in the N. W. with an altitude of 4,300 feet. The State is drained in the E. by the affluents of the Connecticut river, which forms its entire E. boundary line, and in the W. by those rivers entering Lake Champlain, which forms over one-half its W. boundary. The rivers are not navigable, but afford excellent water power. There are numerous small lakes.

The State is famous for its marbles. They occur in many localities, especially in Bennington and Rutland counties, and are found in many colors. Iron, silver, gold, galena, and zinc occur in small deposits, and other mineral products are amethysts, feldspar, mica, chalcedony, jasper, garnets, tourmaline, and asbestos. The principal mineral productions in 1900 were granite, $1,113,788; slate, $917,462; marble, $2,484,852; limestone, $188,100; total stone output, $4,704,202; mineral waters, 67,844 gallons, valued at $19,453; and clay products, $131,525. The State ranks first in the Union in the value of its marble output, second in total stone production, and third in granite.

Vermont is a farming State and produces all the cereals, but stock raising and dairy farming are the principal agricultural industries. It is especially noted for its production of maple sugar. The principal farm products are corn, wheat, oats, barley, buckwheat, potatoes, and hay.

The extensive water power, timber land, and stone quarries, of Vermont give it a prominent place among manufacturing States. In 1900 there were reported by the United States census 4,817 manufacturing establishments employing $48,962,114 in capital and 29,575 persons; paying $12,249,695 in wages, and $29,965,851 for material used; and having finished products valued at $57,872,769. The principal articles of manufacture are lumber and timber, dairying products, marble and granite tombstones and monuments, paper and wood pulp, flour and grist, woolen goods, hosiery and knit goods.

The governor is elected for a term of two years and receives a salary of $1,500 per annum. Legislative sessions are held biennially and are unlimited in length. The Legislature has 30 members in the Senate and 245 in the House. There are 2 Representatives in Congress.

The first settlement by whites was made in 1724 on the site of the present town of Brattleboro. Immigration began to pour in in 1760–1768, during which period the soil had been claimed as part of the New Hampshire grant; whereupon a counter claim was put forth by the governor of New York, under virtue of the grants from Charles II. to his brother, the Duke of York. On an appeal to the English crown, jurisdiction over the new territory was decided in favor of New York. This was the precursor of an armed strife which continued for 10 years between the New York authorities and the Vermont settlers under the leadership of Ethan Allen and others. This state of things was partially interrupted by the outbreak of the Revolutionary War. In 1777 Vermont declared her independence, and sought admission into the National Confederation. Difficulties intervened, however, and it was not till 1791 that she was admitted into the Union; having previously bought off the claims of New York with the sum of $30,000. Though not at the time a member of the confederated colonies, Vermont had played a distinguished part in the war of independence, and her "Green Mountain Boys" participated in some of the hardest fought battles of the war. In the War of 1812, the Vermonters added fresh laurels to their military record. During the Civil War Vermont furnished more than her quota of men, sending more than one-tenth of the whole population.

Vermont, University of, a coeducational, non-sectarian institution in Burlington, Vt.; founded in 1791.

Verne, Jules, a French novelist; born in Nantes, France, Feb. 8, 1828. He studied law for some time, but afterward began writing short pieces for the stage. In 1863 he published "Five Weeks in a Balloon," and the vein of the marvelous, tinged with a quasi-scientific truthfulness, was worked by him with great success. His more popular works are: "Twenty Thousand Leagues under the Sea," "From the Earth to the Moon," "Across Africa in a Balloon," "Michel Strogoff," "To the Center of the Earth," "Round the World in Eighty Days," "The Mysterious Island." Died at Amiens, France, March 24, 1905.

Veronese, Paul (Paolo), the name by which Paolo Caliari (or Cagliari), an Italian artist of the Venetian school, is usually known, from his having been born at Verona, probably in

1528. The most celebrated of the works of this great artist — many of them very large — is the "Marriage Feast at Cana of Galilee," now in the Louvre at Paris; it is 20 feet high, and 30 in length, and contains 120 figures, many of them portraits of contemporaries, and the details much more 16th-century Italian than ancient Jewish. Besides these may be mentioned: "The Calling of St. Andrew to the Apostleship," "The Feast of Simon," and (in the National Gallery) the "Presentation of the Family of Darius to Alexander," and "St. Helena's Vision of the Invention of the Cross"— the former purchased for $65,000, and the latter for over $15,000. Veronese was the last of the great Venetian painters. He died in Venice, April 19, 1588, and was buried in San Sebastiano.

Veronica, a saint of the Roman Catholic Church, who, according to the legend, was one of the women who met our Lord on his way to Calvary. As he was sinking, overpowered by fatigue, under the weight of the cross, Veronica offered him her veil to wipe the sweat from his brow, when wondrous to tell, his divine features were miraculously impressed on the cloth, and remained as a permanent picture of the face of our Lord.

Vertebra, in comparative anatomy, one of the bony segments of which the spine, or backbone, consists. The fundamental element of each vertebra is the body or centrum, from the surface of which spring two bony arches, called the neural arches, or neurapophyses, because they form with the body the neural canal, which incloses the spinal cord. From the point of junction there is usually developed a spine, called the spinous process, or neural spine, rudimentary in the atlas or first cervical vertebra. From the neural arches are also developed the articular process or zygapophyses, which aid the centra in uniting the vertebræ to each other. From the sides of the body proceed the transverse processes. The number of vertebræ varies greatly in different animals. The vertebral column is divisible into distinct regions, of which the following are recognizable in the higher Vertebrata: The cervical vertebræ (seven in man), composing the neck; the dorsal (12 in man), usually carrying well-developed ribs; the lumbar (five in man). These form the cervical, dorsal and lumbar regions respectively, and are sometimes called true vertebræ, to distinguish them from the false vertebræ, which consist of those in the sacral region usually anchylosed to form a single bone, the os sacrum, and a variable number of vertebræ forming the caudal region or tail. The spaces between the vertebræ are filled with an elastic substance, admitting of an amount of motion which, though slight between each pair, is in the aggregate sufficient to give the spinal column considerable flexibility. The vertebræ and their projections or processes afford attachments for a number of muscles and ligaments, and passages for blood vessels and for the nerves passing out of the spinal cord.

Vertebrata, in zoölogy, a division of the animal kingdom, instituted by Lamarck, comprising animals in which the body is composed of a number of definite segments, arranged along a longitudinal axis; the nervous system is in its main masses dorsal, and the neural and hæmal regions of the body are always completely separated by a partition; the limbs are never more than four in number; generally there is a bony axis known as the spine or vertebral column, and a notochord is always present in the embryo, though it may not persist in adult life.

Vespasian, Titus Flavius Vespasianus, a Roman emperor; born of a poor family in the country of the Sabines A. D. 9. He served in the Roman armies, gradually rising to distinction, and in 66 was charged by Nero with the conduct of the Jewish war. He was still engaged in it when Nero died, and while the civil war was going on between Otho and Vitellius, Vespasian was proclaimed emperor, A. D. 69. The Jewish war ended in 70, and the next year Vespasian and Titus had a joint triumph. Vespasian died, A. D. 79, leaving two sons, Titus and Domitianus, who both became emperors.

Vespers, so called from Vesper, the evening star. Originally, like that of all the canonical hours, of which formerly it was the last, the service consisted of the singing of three psalms intermixed with some prayers.

Vespucci, Amerigo, or **Americus Vespucius,** an Italian navigator, after whom the continent of America is named; born in Florence, 1451. He made two voyages to America, in 1499, and the following year, exploring on the first voyage part of the mainland of South America. The maps detailing his explorations gave him great fame, and it is understood that, without any initiative on his part, his name was applied by mapmakers to the new continent. He died in 1512.

Vest, George Graham, an American statesman; born in Frankfort, Ky., Dec. 6, 1830; was graduated at Center College, Ky., in 1848, and at the Law Department of Transylvania University, Ky., in 1853; settled in Missouri in the latter year and there began the practice of law; was a member of the Confederate Congress for three years; and was elected to the United States Senate in 1879, 1885, 1891, and 1897. He died Aug. 9, 1904.

Vesta, an ancient goddess, called Hestia by the Greeks. According to the traditions of that people she was a virgin divinity, and watched over the fire that burned on the household hearth, which was looked on as her shrine. Something sacred attached to this part of the house. It was the family altar; here suppliants took refuge; on it oaths were sworn. Each town had its public fire, which was left continually burning in the Prytaneum; and when a band of colonists went forth from the city, they carried fire lighted at the common hearth with them. At Rome it was believed that Æneas had brought in this manner the sacred fire from Troy. It was preserved in a temple of circular shape with vaulted roof, which stood on the Forum. The sacred fire therein was tended by six priestesses who were called Vestales. They were virgins like the goddess whom they served. They performed several important functions in the State religion of Rome. They assisted at all great public rites, and were present at such religious transactions as the consecration of temples.

Vesta, in astronomy, the name of the fourth asteroid, discovered by Olbers at Bremen, March 29, 1807, his second and last discovery among the asteroids. It is the brightest among the small planets, sometimes being visible to the naked eye.

Vestibule Trains, railroad cars provided with inclosed and connected platforms. The expedient of inclosing, or as it has been termed, the vestibuling of, car platforms for the comfort and convenience of passengers having occasion to pass from car to car while a train is in motion, has been in daily use for some years.

Vestments, Sacred. The use by the priesthood of a distinctive costume in public worship formed a part not only of the Jewish, but of almost all the ancient religions. Generally speaking, in the Christian church the sacred vestments represent the original costume of Rome and the East in the first centuries, retained unaltered by the clergy, whereas in the everyday world the costume varied in fashion, in material, in color from year to year. There seems little room for doubting that from a very early time Christian ministers employed some distinctive dress in public worship; and Catholic writers even find traces in the beginning of the 5th century of the practice of blessing the vestments which were destined for the public services of the Church. The vestments used in the celebration of mass by priests of the Roman Catholic Church are the amice (originally worn over the head); the alb; the girdle, a linen cord tied round the waist, and confining the folds of the alb; the maniple, a narrow strip of embroidered silk, worn pendent from the arm; the stole, and the chasuble.

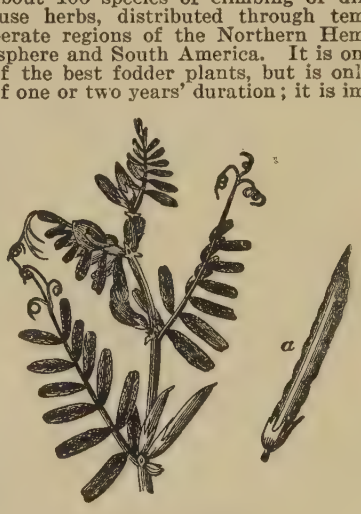
Vestry, a room adjoining a church where the vestments of the clergy are kept. Hence the place of meeting of those having the charge of parochial affairs, and collectively the persons themselves to whom these affairs are intrusted. In England, the minister, church wardens, and chief men of a parish generally constitute a vestry, and the minister, whether rector, vicar, or perpetual curate, is ex-officio chairman. The powers of the vestry include the expenditure of the parish funds, the repairing or alteration of churches or chapels, and the appointment of certain parish officers.

Vesuvius, a volcanic mountain in the Bay of Naples; supposed to have been heaved up from the submarine

level where it was formed. Besides the shells which indicate its sea origin, it contains erratic blocks of limestone from the higher Apennine offshoot, Monte Somma, which, in an irregular semicircle, surrounds it on the N. and E. The latter was the seat of volcanic activity long before Vesuvius, which first (A. D. 63) became convulsed by earthquakes, repeated at intervals till 79, in which year occurred its earliest known eruption. This was followed by others, of which the more memorable are that in 472, when its ashes alighted in Constantinople; in 512, when they were wafted to Tripoli; in 1036; and in 1500; after which ensued a period of inaction, broken in December, 1631, by a destructive outbreak which denuded the mountain of the forest growth with which it had become clothed. The 18th century witnessed many of its eruptions, the most remarkable being that of 1793, when a lava stream 12 to 40 feet thick swept over Torre del Greco and penetrated the sea to a distance of 380 feet, by which time its volume was 1,204 feet wide and 15 feet high. This stream was so liquid that to leave the crater and enter the sea — a journey of 4 miles — took only six hours.

Another memorable outbreak was that of 1822, when the so-called "smoke" from the crater rose to a height of 10,000 feet, emitting flashes of lightning, raining torrents of hot water, and flooding the villages of S. Sebastiano and Massa. In 1855 occurred a terrible eruption, in which the summit of the cone discharged a lava stream which ravaged the fertile and highly cultivated region below. On Dec. 8, 1861, Torre del Greco suffered severely from another visitation, surpassed in turn by that of 1871–1872, when the sudden emission of lava from a crater of 1855 killed 20 spectators on the spot. S. Sebastiano and Massa were again greatly damaged, the cone threw up fragments of rock to a height of 4,000 feet, and the explosions were so loud that the whole countryside fled panic-stricken to Naples. The activity of the volcano, accompanied by distinct shocks of earthquake, lasted for a week. Vesuvius' observatory (1844) has acquired a European reputation from the meteorologist Melloni, and still more from his successor, Professor Palmieri, 1854-82, and Prof. Matteucci, who recorded the disastrous eruption of Apr., 1906, which destroyed Boseo, Reale, and other villages, with great loss of life. A cable railroad to the summit was opened in 1880.

Vetch, Fetch, Fitch, or Tare, terms variously used to indicate the fodder plant. This genus consists of about 100 species of climbing or diffuse herbs, distributed through temperate regions of the Northern Hemisphere and South America. It is one of the best fodder plants, but is only of one or two years' duration; it is important also for green manure, and as a companion crop with clovers. The practice of sowing it along with oats or barley is strongly recommended, insuring a greater bulk of produce, and preventing the crop from massing and rotting in wet weather.



COMMON VETCH.
a, seed pod.

Veterinary Art, the art which deals with the nature, causes, and treatment of the disorders of domestic animals. The first veterinary school was instituted in 1762 at Lyons.

Veterinary Medicine, that branch of medical science which embraces the treatment of diseased domestic animals, and the preservation of their health. It has evidently been practised from the earliest times; and there is every reason to suppose that the study of disease in the inferior

animals was applied, on comparative principles, to the treatment of disease in the human subject. For many centuries, the inferior animals alone were used for purposes of scientific dissection. Among the Greeks, the study of the diseases of domestic animals, and of the remedial agents applicable to such diseases, was directly applied to the practice of medicine, and it was compulsory on anyone making a new discovery regarding such curative agents, to divulge it for the public good. In the United States there were 13 schools of veterinary medicine in 1902. Nearly all are connected with well-known colleges and universities.

Veto, the power which one branch of the Legislature of a State has to negative the resolutions of another branch; or the right of the executive branch of government, such as president, governor, or king, to reject the bills, measures, or resolutions proposed by the Legislature. In the United States the President may veto all measures passed by Congress, but after that right has been exercised the rejected bill may become law by being passed by two-thirds of both of the Houses of Congress.

Viaduct, a term applied to extended constructions of arches or other artificial works to support a roadway, and thus distinguished from aqueducts, which are similar constructions to support waterways. One of the most modern constructions of this type is the recently completed viaduct across the Des Moines river in Iowa, the longest railway viaduct for its height in existence. Its length is 2,685 feet and height 185 feet. In point of total weight of metal employed in its construction it is fully three times as heavy as the next largest bridge of the kind in the world. The loftiest of these structures is on the line of the Antofagasta railway in Bolivia and is known as the Loa viaduct. The height of the tracks above the water is 336 feet. As the crossing is over a narrow canyon, the length is only 800 feet; the great depth, however, involves a proportionate width of the towers at the base, the extreme spread of the columns being 124 feet. The next in point of height is the Pecos viaduct, which carries the Southern Pacific railway over the Pecos river in Texas. This structure, which was built in 1892, is but little lower than the Bolivia viaduct, the height from water to rail being 321 feet, and the total length from abutment to abutment is 2,180 feet. Then comes the Kinzua viaduct, 302 feet above the water and 2,050 feet in length.

Vicar, in English canon law, the priest of a parish, the predial tithes of which are impropriated or appropriated; that is, belong to a chapter or religious house, or to a layman who receives them and allows the vicar only the smaller tithes or a salary.

Vicar-Apostolic, in the Roman Church, a name formerly given to a bishop or archbishop, generally of some remote see, to whom the Pope delegated a portion of his authority, or to any ecclesiastic invested with power to exercise episcopal jurisdiction in some place where the ordinary was for some reason incapable of discharging his duties efficiently.

Vicar-Forane, in the Roman Church, a dignitary or parish priest appointed by a bishop to exercise a limited jurisdiction in a particular town or district of his diocese. The chief duty of vicars-forane is to maintain ecclesiastical discipline.

Vicar-General, in the Roman Church, a clerk, usually (but not necessarily) in holy orders, and having a degree in canon law, appointed by a bishop to assist in the discharge of episcopal functions. In matters of jurisdiction the vicar-general is regarded as the ordinary, and there is no appeal from the former to the latter; but the vicar-general may not do any of those things which belong to the episcopal order.

Vice-President, one who holds office next to a president. The Vice-President of the United States is the second executive officer of the government, and is elected at the same time and in the same manner as the President. During the life and active health of the President, his executive functions are in abeyance, his duties being confined to the presidency of the Senate during the sessions of Congress. In the Senate he has no vote, except in case of a tie between the opposing parties

on a division of the House. Then, as is usual with parliamentary presiding officers, he has the casting vote. In the event of the death or incapability of the President, the Vice-President assumes the duties of the office. Several times in the history of the country has the Vice-President been called to the presidential chair — the first case being that of John Tyler, who succeeded William H. Harrison; then came Millard Fillmore, who succeeded Zachary Taylor; Andrew Johnson, who succeeded Abraham Lincoln; Chester A. Arthur, who succeeded James A. Garfield; and Theodore Roosevelt, who succeeded William McKinley. The salary of the Vice-President is $12,000 a year.

Vicksburg, a city and county-seat of Warren co., Miss.; on the Mississippi river, about 1 mile S. of the mouth of the Yazoo. During the Civil War Vicksburg was strongly fortified by the Confederates, who several times repulsed land and naval attacks, but were forced to surrender to General Grant, July 4, 1863. In 1876 the river cut through a neck of land, making the city an island. Pop. (1910) 20,814.

Victor, Metta Victoria (Fuller), an American novelist; born near Erie, Pa., March 2, 1831. She published a story, "The Silver Lute," at 13; with her sister Frances, "Poems of Sentiment and Imagination"; alone but anonymously, "Fresh Leaves from Western Woods"; "The Senator's Son: A Plea for the Maine Law," which had a great circulation in England and America; and "Two Mormon Wives: A Life Story." She was the author of many other novels. She died in Hoboken, N. J., June 26, 1886.

Victor Amadeus II., Duke of Savoy, and first king of Sardinia; born in 1666; succeeded his father in the duchy, in 1675. He married Maria d'Orleans, niece of Louis XIV., but entered, nevertheless, on a tortuous policy, which involved him in a war with that monarch. Having acquired Sicily, he exchanged that kingdom, in 1717, for Sardinia, by treaty with the emperor. He died in 1732, two years after his abdication in favor of his son.

Victor Amadeus III., son of Charles Emmanuel III. of Sardinia; born in 1726, ascended the throne in 1773. He founded the Academy of Sciences at Turin, and exhibited the utmost anxiety for the welfare of his subjects. His hostility to the revolution in France provoked a contest with that country, in which his throne fell by the arms of Bonaparte. He died in 1796.

Victor Emmanuel I., King of Sardinia, second son of Victor Amadeus III.; born July 24, 1759. On the abdication of his brother, Charles Emmanuel IV., in 1802 he ascended the throne. He resided at Cagliari till 1814, as his territories were held by the French. His lands were restored by the Congress of Vienna, but his reactionary measures caused a revolution, and he abdicated March 13, 1821. He died in Moncalieri, Jan. 10, 1824.

Victor Emmanuel II., King of Italy, son of Charles Albert, King of Sardinia; born in Turin, Italy, March 14, 1820. While heir apparent, he fought in the campaign against the Austrians, which, terminating in the disastrous battle of Novara, caused his father to abdicate. He became king in 1849. After forming a close alliance with France, Victor Emmanuel, in 1859, again engaged in a war with Austria, which power, after being totally defeated in a short campaign, abandoned Lombardy to the Italians. In 1861, Victor Emmanuel was proclaimed King of Italy. In 1866, as the ally of Prussia, his army was defeated at Custozza, and his fleet at Lissa; but the success of the Prussians at Sadowa restored Venetia to Italy, the unification of which kingdom Victor Emmanuel completed in 1870, by making Rome his capital. The personal character of the first King of Italy bore a close resemblance to that of Henry IV., King of France, and, like that monarch, he possessed a bonhomie which rendered him popular among all classes of his subjects. Like Henry Quatre, too, Victor Emmanuel I. on several fields of battle displayed an almost reckless bravery; while his penchant for the fair sex was as notorious as that of his illustrious prototype. Victor Emmanuel died in Rome, Jan. 9, 1878, and was succeeded by his son Humbert.

Victor Emmanuel Ferdinand Mary Januarius, who succeeded to the throne of Italy as a result of the

assassination of King Humbert, his father, was born on Nov. 11, 1869. He is a good-hearted monarch like his father, but not quite so generous, perhaps; and has not shown, possibly because he has had no great opportunity to show, that he inherits the tremendous will-power of his grandsire and namesake, Victor Emmanuel II. He was married to Princess Helene, daughter of Nicholas, Prince of Montenegro, in 1896, in Rome. During the earthquakes in Calabria in 1905, and eruptions of Mount Vesuvius in 1906, the king and queen visited the scenes of the disasters and rendered inestimable services in alleviating the sufferings and distress of the unfortunate people.

Victoria, an original State in the Australian Commonwealth; bounded by New South Wales, the Pacific, the Indian Ocean, and South Australia; area, 87,884 square miles; pop. (1910) 1,303,357; capital, MELBOURNE (*q.v.*).

Victoria, late Queen of the United Kingdom of Great Britain and Ireland and Empress of India, only child of Edward, Duke of Kent (fourth son of George III.); born in Kensington Palace, May 24, 1819. Her mother, Victoria Maria Louisa (1786–1861), was the daughter of Francis, Duke of Saxe-Coburg, and sister of Leopold, King of the Belgians. Her first husband, the Prince of Leiningen, died in 1814; and in 1818 she married the Duke of Kent. The duke died in 1820, leaving his widow in charge of an infant daughter only eight months old, who had been baptized with the names of Alexandrina Victoria. She ascended the throne of the United Kingdom on the death of her uncle, William IV., on June 20, 1837; her uncle, the Duke of Cumberland, became King of Hanover, in virtue of the law which excluded females from that throne, and so the long connection between the crowns of England and Hanover was terminated. Victoria was proclaimed June 21, 1837, and crowned at Westminster, June 28, 1838. The young queen was married at St. James' Palace (Feb. 10, 1840) to Prince Albert, Prince of Saxe-Coburg and Gotha, and second son of the then reigning duke.

The death of the Prince-Consort in 1861 led his widow to seclude herself for several years from public life, but, though she never afterward took so prominent a part in public affairs, she never neglected any of her essential duties as queen. No former monarch so thoroughly comprehended the great truth, that the powers of the crown are held in trust for the people, and are the means and not the end of government. This enlightened policy entitled her to the glorious distinction of having been the most constitutional monarch Great Britain had ever seen. In September, 1896, her reign had reached a point exceeding in length the reign of any other English sovereign. The celebration of the occasion was postponed till June, the anniversary of her accession to the throne, 60 years previous.

VICTORIA CROSS.

Queen Victoria had four sons and five daughters: the Princess Royal, Victoria, born 1840, married in 1858 to Frederick William, afterward Emperor of Germany; Albert Edward, Prince of Wales, born in 1841, and married in 1863 to Alexandra, daughter of the King of Denmark; Alice, born in 1843, married in 1862 to Prince Frederick-William, of Hesse, died in 1878; Alfred, born 1844, created Duke of Edinburgh 1866, married in 1874 to Marie, daughter of the Emperor of Russia, died in 1900; Helena, born 1846, married in 1866 to Prince Christian of Denmark; Louise,

born in 1848, married in 1871 to the Marquis of Lorne; Arthur, born in 1850, created Duke of Connaught 1874, married in 1879 to Princess Louise Marguerite of Prussia; Leopold, born 1853, created Duke of Albany in 1881, married to Princess Helena of Waldeck in 1882, died 1884; and Princess Beatrice, born 1857, married in 1885 to Prince Henry of Battenburg, died 1896. Queen Victoria died, after a short illness, Jan. 22, 1901.

Victoria Cross, an English naval and military decoration instituted by royal warrant, Jan. 29, 1856, and bestowed for "conspicuous bravery or devotion" to the country in the presence of the enemy. It is the most coveted of all British decorations, and is open to all officers and men of the regular, auxiliary, and reserve forces.

Victoria Land, or **South Victoria Land,** an Antarctic continental plateau, S. E. of New Zealand, extending between longitudes 160° to 170° E., from latitude 71° to the South Pole. It contains the volcanoes Erebus and Terror, discovered by Sir James Clark Ross in 1841-42. The highest point is Mount Melbourne, over 14,000 feet. Among recent expeditions which have added to the knowledge concerning the region, are the Belgica (1897-99); the Borchgrevink (1898-1900); and the Discovery (1901-04).

Victoria Nyanza, a great freshwater lake in East Central Africa, situated on the equator; area, over 30,000 square miles. It lies about 3,880 feet above sea-level. The lake is drained by the Nile, and its chief feeders are the Kaject, the Nzoia, the Shimiyu, and the Katonga. The lake, whose native name is Ukerewe, was discovered by Speke in 1858, visited by him and Grant in 1861-1862, and subsequently partly explored by Stanley (1875), Mackay, Thompson, and others.

Victoria Regia, named by Lindley after Queen Victoria, is the most magnificent of all known water lilies, and comes from a region in which it had been supposed that no Nymphæaceæ occurred. It was first discovered by the botanist Hænke in 1801; Bonpland afterward met with it. Orbigny, in 1828, sent home specimens to Paris; others also subsequently saw it growing, but it excited no attention till, in 1837, Sir Robert Schomburgk found it in the Berbice river in British Guiana. The rootstock is thick and fleshy, the leaf-stalks prickly, the leaf peltate, its margin circular, its diameter from 6 to 12 feet, the edge so turned up as to make the leaves floating in tranquil water look like a number of large trays. The leaves are green above, and covered with small bosses, below they are deep purple or violet; the undeveloped flowers are pyriform; the sepals four, each about seven inches long by four broad, purple externally, whitish internally; the petals numerous, in several rows, passing insensibly into stamens, fragrant, the outer ones white,

VICTORIA REGIA: EXPANDED BLOSSOM.

the inner ones roseate; stamens numerous, the outer fertile, the inner sterile; ovary many celled, cup-shaped above, with many small stigmas along its upper margin; fruit a prickly berry. A native of South American rivers, especially the tributaries of the Amazon. The seeds are said to be eatable, and the plant is in consequence called water maize by the natives of the region where it grows.

Vicuna, in zoölogy, a native of the most elevated localities of Bolivia and Northern Chile. It is very wild, and has resisted all attempts to reduce it to a state of domestication. It is the smallest species of the genus, standing only about 30 inches at the shoulder. It is extremely active and sure-footed, and is seldom taken alive. In habit it somewhat resembles the chamois, as it lives in herds in the regions of perpetual snow. The soft, silky fur is in much demand for mak-

ing delicate fabrics, and many thousands of these animals are slaughtered annually for the sake of the skins.

THE VICUNA.

Vidocq, Eugene Francois, a French detective; born in Arras, July 23, 1775. He was the son of a baker and was a thief from his childhood. He entered the army, was wounded and discharged, and began the life of a vagabond. In 1796 he committed forgery, for which he was sent to the galleys for eight years. Contriving to escape he joined a band of highwaymen, but was expelled by them after taking a solemn oath not to betray them. He at once went to Paris and disclosed their hiding place to the authorities. He then became a detective and with his comrades made some wonderful discoveries of burglaries, etc., which it was afterward claimed were committed by his own men. After his dismissal from the force in 1825, he engaged in some dishonest business operations. He wrote a history of his experiences, but, from his well-known lack of veracity, it was not considered authentic. He died April 28, 1857.

Viele, Egbert Ludovikus, an American civil engineer; born in Waterford, N. Y., June 17, 1825. As chief engineer he did some topographical work connected with the laying out of Central Park, New York city. During the Civil War he commanded the land forces at the capture of Port Royal; directed the investment of Fort Pulaski, Ga.; planned and led the march on and capture of Norfolk, Va., and was military governor of that city in 1862–1863. Subsequently he was member of Congress. Died 1902.

Vienna (German, Wien), the capital and largest city of the Austrian empire; in Lower Austria, on the Danube canal, a branch of the Danube. The small river Wien flows through part of the city to join the canal. Vienna consists of the Inner City and eight districts or sections completely surrounding it — viz., Leopoldstadt, Landstrasse, Wieden, Margarethen, Mariahilf, Neubau, Alsergrund, and Favoriten. Immediately beyond the fortifications are nine populous suburbs included (since 1890) within the Vienna police district, which has a total area of 51 square miles, and population of 1,364,548.

Though Vienna contains buildings of the 14th and even of the 13th century, it is, in its present form, essentially a modern city; nearly all the most conspicuous and pretentious public buildings date from the later half of the 19th century. Modernity too is characteristic of the Viennese; they are sprightly, good-tempered, and pleasure-loving, fond of music, dancing, and the theater. The Inner City and the Ringstrasse are the handsomest and most fashionable quarters. In the former are the cathedral of St. Stephen (1300–1510), with a tower 450 feet in height; the Hofburg or imperial palace, a large and irregular pile of very various dates; and many palaces of the nobility. On one side or other of the Ringstrasse rise the Exchange; the University; the huge Gothic New Rathhaus, built at a cost of over $3,750,000; the Parliament House; the Supreme Law Courts; the Imperial Museums of Natural History and of Art (1872–1886), twin buildings on either side of the imposing monument of the Empress Maria Theresa (unveiled 1888); the imperial Opera House; the Academy of Art; the Austrian Museum of Art and Industry, etc.

Vienna is the chief industrial city in the empire. Machinery, scientific and musical instruments, artistic goods in bronze, leather, terra-cotta, porcelain, etc., bent-wood furniture, meer

schaum pipes, etc., are among the noted manufactures of Vienna. As a center of trade and finance Vienna is no less important. Grain, flour, cattle, seeds, wines, and manufactured goods of all kinds are annually handled here to an immense aggregate value. Over $12,500,000 were spent in 1868–1881 in regulating the channel of the Danube so as to render the river navigable at all times, and a new mercantile quarter is gradually springing up between the canal and the main stream.

The chief local authority is the Gemeinderath, or city council (consisting of a burgomaster, two vice-burgomasters, and 120 councillors), which is assisted by local committees or councils in the various districts.

Vienna occupies the site of the Roman Vindobona, which was established in A. D. 14, as the successor of the Celtic settlement of Vindomina. The beginning of its present importance, however, dates only from the period of the Crusades, which directed a steady stream of traffic through it. The famous siege of Vienna by the Turks lasted from July 14 to Sept. 12, 1683, when it was relieved by John Sobieski of Poland. Since the downfall of the first Napoleon who brought Austria to his feet Vienna has grown rapidly. It still retains some ancient customs, and the annual throng to the graves of the dead on All Saints' day in 1903 is said to have been larger than in any former year.

Vigilance Committee, a term used to denote an unauthorized band of citizens organized to summarily punish crime, or prevent the commission of crime, in such instances as the civil and lawfully constituted authorities seem powerless to reach these desired results.

The most noted vigilance committees in the history of the country were those formed in San Francisco, and contiguous territory in the Western States, and in New Orleans, in the S. portion of the Union. In the earlier years of San Francisco the city was so overrun with the lawless element among the miners and adventurers that the administration of justice became in the hands of the constituted authorities but a travesty. It was then that the work of the vigilance committee, or Vigilantes, as they were styled, began. That work was short, sharp and terrible. Thieves and murderers were hanged on every side, while others were forced to seek safety in flight. As the mining operations extended E. into Nevada and Montana, the work of the vigilance committee was again called into requisition, with the happy effect of clearing the country for a time at least, of a large portion of the lawless element. In New Orleans the last instance of the organization of a vigilance committee was in 1891, when a body of citizens took from the city jail a number of Italians, suspected of being members of the Italian fraternity of murderers known as the Mafia, and accused of being the murderers of Chief of Police David Hennesey, and put them to death by shooting and hanging. This action led to a protest and request for satisfaction by the Italian government and compensation was paid to the relatives of the victims by the United States.

Viking, a rover or adventurer belonging to one of the bands of Northmen who scoured the European seas during the 8th, 9th, and 10 centuries. This word has been frequently confounded with sea-king, a term which is applied to a man of royal race, who took by right the title of king when he assumed the command of men, although only of a ship's crew; whereas the former term is applicable to any member of the rover bands.

Vilas, William Freeman, an American statesman; was Postmaster-General in 1885–1888; Secretary of the Interior in President Cleveland's cabinet in 1888–1889; United States Senator from Wisconsin in 1891–1897.

Village Communities, the means by which many scholars contend that great part of Europe must have been brought into cultivation. A clan of settlers took a tract of land, built their huts thereon, and laid out common fields, which they cultivated in common as one family. The land was divided out every few years into family lots, but the whole continued to be cultivated by the community subject to the established customs as interpreted in the village council by the sense of the village elders. This may

still be seen in the villages of Russia, and even in some parts of England may still be traced the ancient boundaries of the great common field, divided lengthwise into three strips (one fallow, the two others in different kinds of crop), and again crosswise into lots held by the villagers.

Villain, a member of the lowest class of unfree persons under the feudal system; a feudal serf. A villain had in respect of persons other than his lord, all the rights and privileges of a freeman, but in respect of his lord he had no rights, save that the lord might not kill or maim him, nor ravish his females. The villain could not acquire or hold any property against his lord's will, and he was obliged to perform all the menial services demanded of him by his lord; the house and land occupied by him were held solely at the will of the lord.

Villard, Henry, an American capitalist; born in Spire, Germany, April 11, 1835; removed to the United States in 1853. In 1873, as agent for German stockholders, he bought the Oregon and California railroad and the Oregon Steamship companies. He formed the Oregon and Transcontinental Company, which afterward controlled the Oregon Railway and Navigation Company and the Northern Company. In 1881–1884 he was president of the Northern Pacific, and in 1889–1893 was chairman of the board of directors. He died Nov. 11, 1900.

Vincennes, city and capital of Knox county, Ind.; on the Wabash river and the Baltimore & Ohio and other railroads; 50 miles N. of Evansville; is the distributing center of a large farming section; manufactures stoves, metal jewelry, iron pipe, brick, tile, cement, and plaster; and contains Vincennes University, Xavier Cathedral, and the Harrison homestead (1804). Pop. (1910) 14,895.

Vincent, Frank, an American traveler; born in Brooklyn, N. Y. April 2, 1848. He was the first man to make a systematic tour of the world covering 355,000 miles. He was a member of many geographical, ethnological, and archæological societies, and he received decorations from the kings of Burma, Cambodia, and Siam. He published "The Land of the White Elephant"; "Through and Through the Tropics"; "In and out of Central America"; "Actual Africa," etc.

Vincent, John Heyl, an American clergyman; born in Tuscaloosa, Ala., Feb. 23, 1832. In 1865 he established the "Sunday-School Quarterly," and in 1866 the "Sunday-School Teacher," which contained the lesson system, since become international. He was general secretary of the Methodist Sunday-School Union, and also of the Tract Society. In 1874, with Lewis Miller, of Akron, O., he established the Chautauqua Assembly, at Chautauqua Lake, N. Y., and became superintendent of instruction and chancellor. In 1888 he was elected a bishop of the Methodist Episcopal Church, with residence at Topeka, Kan.; and in 1900 was appointed resident bishop in charge of European work of the Methodist Episcopal Church.

Vincent, Marvin Richardson, an American clergyman; born in Poughkeepsie, N. Y., Sept. 11, 1834. He became in 1888 Professor of New Testament Criticism at Union Theological Seminary, New York. With Charlton T. Lewis, he translated Johann Albrecht Bengel's "Gnomon of the New Testament." He afterward published, besides tracts, sermons, and review articles, "Amusement a Force in Christian Training"; "That Monster, the Higher Critic"; "A History of the Textual Criticism of the New Testament," etc.

Vincent, Strong, an American military officer; born in Waterford, Pa., June 17, 1837. Soon after the beginning of the Civil War he became lieutenant in the volunteer army; in September, 1861, was commissioned lieutenant-colonel of the 83d Pennsylvania Infantry; in October, 1862, was promoted colonel; and at Fredericksburg conducted a difficult retreat. He especially distinguished himself in the battle of Gettysburg, where he led his brigade up Little Round Top, and aided in checking an attempt of the Confederates to turn the left flank of the Union army. He was mortally shot while leading his regiment.

Vinci. See LEONARDO.

Vine, climbing shrubs, typical of the order Vitaceæ; they are found over a wide range of the Northern Hemisphere, the majority in temperate Asia, as well as in North America.

The European wine-yielding grape vine, is that which has the greatest economic and commercial importance. It is found on the shores of the Caspian Sea, and it grows wild throughout the lower Caucasus and in Armenia. The cultivation of this plant has occupied much of man's time and attention in all nations that have attained to any degree of civilization, from the very dawn of history, and it is spreading more rapidly at the present time than ever it did at any previous one.

The cultivation of the grape vine was introduced into England by the Romans. At the date of the Norman Conquest there is evidence that the vine was pretty extensively cultivated in the S. and S. W. of England for the production of wine till about the middle of the 18th century, when for this purpose its cultivation was given up, and it was grown for dessert purposes against walls and dwelling houses with considerable success, and continues to be so grown up to this date.

In the United States, especially California, the development of viticulture has been great and rapid. Early attempts were made to grow foreign grapes in the open air, but none of these met with success E. of the Rocky Mountains. Till the Californian grape industry developed, the growing of foreign grapes in the United States was under glass and for dessert purposes. Four native American vines (of some 10 found wild) are used for wine making, the most important being V. Lambrusca. In 1890 there were 400,000 acres under vines, three-fourths of which were producing wine, and the total produce was about 40,000,000 gallons. In California alone the acreage of vines was 150,000 acres, seven-eighths of which were devoted to wine. American vinestocks, as being less liable to suffer from the phylloxera, have with advantage been introduced into France for grafting on.

Vine Disease, in vegetable pathology, any disease attacking the vine. In general it forms a white and very delicate cottony layer upon the leaves, young shoots, and young grapes of the vine, which soon causes them to be covered by brown spots, and then become first indurated and finally destroyed. The fruit becomes abortive, or dwarfed and juiceless, and decay follows. There is a predisposition to the disease in certain states of the atmosphere. It first broke out in Kent, England, in 1845, whence it spread to the continent of Europe, to Madeira, and to the English vines introduced into America, though American vines themselves escaped. Soon after its appearance, Mr. Tucker, a gardener at Margate, England, was the first to try sulphur as a remedy. It is still the best known, and the fungus has been named after its human destroyer.

Vinegar, a solution of acetic acid, usually containing from 2 to 5 per cent. of acid, and minute proportions of various ethers and other substances according to the sources whence it is derived. It is a product of the oxidation of alcoholic solutions, and may consequently be prepared from any body containing alcohol, or capable of being transformed into that substance.

Vinland, the name given to the chief settlement of the early Norsemen in North America. It is undoubtedly represented in modern times by part of Massachusetts and Rhode Island. The first that saw it was Bjarne Herjulfson, who was driven thither by a storm in the summer of A. D. 986, when making a voyage from Iceland to Greenland, of which country his father, Herjulf, and Eric the Red, were the earliest colonists. But Bjarne did not touch the land, which was first visited by Leif the Lucky, a son of Eric the Red, about A. D. 1000. One part of the country he named Helluland ("Stoneland"); another Markland ("Woodland"), the modern Newfoundland and Nova Scotia; a German in his company having found the grape growing wild, as in his native country, Leif called the region Vinland. The natives from their dwarfish size they called skraelings. Two years after Leif's brother, Thorwald, arrived, and in the summer of 1003 led an expedition along the coast of New England S., but was killed the year following in an encounter with the na-

tives. The most famous of the Norse explorers, however, was Thorfinn Karlsefne, an Icelander, who had married Gudrid, widow of Thorstein, a son of Eric the Red, and who in 1007 sailed from Greenland to Vinland with a crew of 160 men, where he remained for three years, and then returned, after which no further attempts at colonization were made. Rafn, in his "Antiquitates Americanæ," published the first full collection of the evidence which proves the pre-Columbian colonization of America. Both he and Finn Magnusen labor to show that Columbus derived his first hints of a new world from the accounts of these old Icelandic expeditions. Finn Magnusen is believed to have established the fact that Columbus did visit Iceland in 1477, 15 years before he undertook his expedition across the Atlantic, and so may have heard something of the long-abandoned Vinland.

Vinton, Arthur Dudley, an American lawyer; born in Brooklyn, N. Y., Dec. 23, 1852; received an academic education and was graduated at the Columbia Law School in 1873. He was the inventor of the automatic railway signal, for which he received a patent in 1898. Afterward he served for a time as managing editor of the "North American Review," and then resumed the practice of law. He died in 1906.

Vinton, Francis, an American clergyman; born in Providence, R. I., Aug. 20, 1809; was graduated at the United States Military Academy in 1830. He resigned from the army in 1836, and studied at the General Theological Seminary; was ordained in the Protestant Episcopal Church in 1839; rector of several large churches, including Trinity Church, New York city, which he served in 1855–1872; defeated for bishop of New York in 1852 by one vote. He became Professor of Ecclesiastical Law and Polity at the General Theological Seminary in 1869. He died in Brooklyn, N. Y., Sept. 29, 1872.

Vinton, Francis Laurens, an American military officer; born in Fort Preble, Me., June 1, 1835; was graduated at the United States Military Academy in 1856. When the Civil War broke out he became a captain in the 16th United States Infantry, and later was made colonel of the 43d New York Volunteers. He participated in the Peninsular campaign; was wounded at the action before Fredericksburg; promoted Brigadier-General of volunteers in March, 1863; and was forced to resign in the following May owing to his wound. He was Professor of Engineering in Columbia College in 1864–1877. He died in Leadville, Col., Oct. 6, 1879.

Viol, in music, a stringed instrument a little larger than the violin; it was furnished with five or six strings, had a fretted finger board, and was played with a bow. The viol is found depicted in MSS. as early as the 11th century. In France, Germany, and Italy the number of the strings varied between three and six. The treble viol was somewhat larger than the violin, and the music for it was written in the treble clef; the mean (or tenor) viol was about the same length and breadth as the modern tenor violin, but was thicker in the body; its music was written in the C clef. The bass viol was much about the same size as the violoncello and the music for it was written in the bass clef.

Violet, in botany, low herbs, more rarely shrubs, with radical or alternate leaves or flowers. Known species 100; from temperate countries. Five of the most familiar are native in temperate America and Europe: the sweet, the hairy, Gerard's or the dog violet; and the pansy violet, pansy, or heart's-ease.

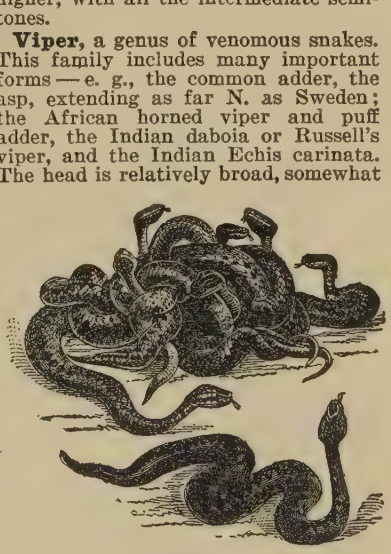
Violin (diminutive from viol), the smallest but most important of the stringed musical instruments played with the bow. Like other bow instruments now in use, it consists of a wooden sonorous chest, formed of two slightly arched surfaces, known as the back and belly, united by sides or ribs, and with a curve or hollow on each side in the middle of the length; a neck or finger-board attached to the chest; and strings fastened at one end to the belly by a tailpiece or projection of wood, and at the other by turning pins at the head or extremity of the neck, by which they can be tightened or loosened at pleasure. The strings thus passing over the belly are

raised up from it by a bridge, which is supported in the interior by the sound post; and on the belly there are two sound-holes opposite each other, of a form resembling the letter f, or rather the long f. The sounds are produced by drawing a bow across the strings, the upper surface of the bridge being convexly curved, so as to enable the bow to be drawn along each string separately, without coming in contact with the rest. The modern violin has four strings of gut, the lowest covered with fine silvered copper wire, or sometimes, in the best instruments, with silver or even gold wire. These strings are tuned in fifths, the highest or first string sounding E on the fourth space of the treble clef, and the other three the A, D, and G in succession below. No instrument can compare with the violin in power of expression and execution. It has an unlimited command over a very wide range of sounds, to which any degree of piano and forte, of staccato and legato, can be imparted. In orchestral music there are always two different violin parts known as first and second violin; and the same is generally the case when the violin is used in concerted music, the usual arrangement of stringed quartet music being for two violins, viola, and violoncello.

Experience has shown that the minutest details of form and proportion, and the material of which each separate part is made, are matters of vital importance to the quality of the violin. The great makers seem by a succession of delicate experiments and observations to have attained to acoustical qualities of high perfection, which their careful workmanship and extreme dexterity enabled them in all cases unfailingly to reproduce. The prices of the best violins of Stradivari and Guarnieri del Gesu range from $1,000 to $2,500, but several have exceeded the latter figure; one was sold at Stuttgart a few years ago at the fancy price of $10,250.

Violoncello, a bow instrument of the viol class, held by the performer between the legs, and filling a place between the viola and the double-bass. It is strung with four gut strings, the lower two covered with silver wire, and tuned in fifths. The compass usually employed extends from C on the second leger line below the bass staff to A on the second space of the treble, though soloists play an octave higher, with all the intermediate semitones.

Viper, a genus of venomous snakes. This family includes many important forms — e. g., the common adder, the asp, extending as far N. as Sweden; the African horned viper and puff adder, the Indian daboia or Russell's viper, and the Indian Echis carinata. The head is relatively broad, somewhat



COMMON VIPERS.

triangular, and generally covered with scales; the eye has a vertical pupil, and there is no pit between it and the nostril; the maxilla bears on each side one functional fang, usually with several reserve fangs beside it; the poison is virulent. The vipers are widely distributed through Europe and Australia; the majority are African. As far as is known they are viviparous.

Viper's Bugloss, a genus of plants. The species are large herbaceous plants or shrubs, rough with tubercles and hairs. Their flowers are often very beautiful. The common viper's bugloss, a large annual plant, is a native of Great Britain and of most parts of Europe growing in dry places, not infrequently in cornfields. Its flowers are at first reddish, and afterward blue. It derives its name, viper's bugloss, from spots on its stem,

which somewhat resemble those of the viper, and the property of healing viper's bites was therefore ascribed to it. Other herbaceous species are found in North and South America, and other parts of the world. Shrubby species are found chiefly in the Canaries and South Africa.

VIPER'S BUGLOSS.

Virchow, Rudolf, a German pathologist; born in 1821, the son of a small shopkeeper and farmer in the village of Schivelbein, in Pomerania. He graduated as doctor in 1843 and became assistant professor at the Berlin Charity Hospital. In the spring of 1848 he was the junior member of a government commission sent to investigate an epidemic of typhus caused by famine among the hand-loom weavers of the Silesian highlands, and the result of his studies which he embodied in a brilliant and forceful report, gave a permanent direction both to his scientific and political career.

Before undertaking this task, he had been appointed in 1847 a regular lecturer in the University of Berlin, and in the same year had founded, together with Dr. Reinhardt, his invaluable "Archives of Pathological Anatomy and Physiology and of Clinical Medicine" which has been published ever since. His radical views during the stirring revolutionary times of 1848–1849 led to his expulsion from his Berlin chair. Accepting a call from the University of Wurzburg, he did there some of the most remarkable work of his life, and with a coterie of brilliant fellow teachers soon raised the little university into the front rank of medical schools. In 1856 the University of Berlin recalled him to a full professorship, and, despite his intense interest in politics, he carried on his studies and his teachings without cessation from that time till within six months of his death. His greatest discovery was made at Wurzburg, where he first laid down the theory of the cellular nature of animal tissue, and it was his book, entitled "Cellular Pathology," which not only established his reputation throughout Germany, but made his name respected and honored throughout the entire world. Taking the place of the former vague views of vitality, this theory formed the basis for a new science of physiology.

After this great achievement Professor Virchow made one discovery after another. Never a practitioner himself, he was eminently a teacher of physicians. To these, in later years, the rise and development of bacteriology seemed at first to be in conflict with Virchow's cellular system. The entire medical profession now understands that, while bacteria may cause disease, the disease itself is a particular state of the cells of which the human organism is composed.

But the range of his investigations and discoveries was never confined to any one line or field. Our knowledge of tumors, of tuberculosis, of diphtheria, of embolism, and of the brain, is very largely what Virchow has made it. Indeed, a medical authority has recently declared that "if we should expunge all that medicine as a science directly and indirectly owes to him, comparatively little would be left." Between 1848 and 1879 he wrote voluminously on subjects connected with public hygiene, the reform of medicine, epidemics and endemics, statistics of morbidity and mortality, hospitals, military medicine, school hygiene, criminal law, forensic medicine, and the cleaning of cities. At the same

time he kept on publishing his writings on special subjects, such as "Inflammation of Blood-Vessels," "Contributions to the Pathology of the Skull and Brain," "Cranial Deformities," "New Formation of Gray Cerebral Substance," "Cretinism," etc. In the use of his special knife which he named "the pathologist's sword," in the operating room, he displayed an accuracy and skill that were the wonder of beholders.

But, aside from the field of medicine, this great man displayed a versatility that gave point to the popular saying about him in Berlin, that "when he died it would be found that he was not one man but four men." He rapidly made himself, while still young, an authority in ethnology, a pioneer in anthropology, an able archæologist, and a leading Egyptologist. He established the measurements for comparative anthropology and collected race data as no other man had ever done. The discoveries at Troy were due as much to his knowledge and encouragement as to Schliemann himself, whose stanch friend and invariable defender Virchow was. With Schliemann he traveled through Nubia, Egypt, and the Peloponnesus. In 1879 he took part in Schliemann's excavations in Hissarlik. The graves of Koban he described in 1883, and similarly valuable works in archæology appeared in 1880 and 1882. He was for years one of the teachers of the Berlin Association of Artisans, and devoted no little of his precious time to the spreading of the knowledge of nature among the poor. As a linguist, Virchow was a marvel to scientific men. At nearly all international conferences he was able to address the great audiences that came to hear him in their own languages. During the wars with Austria and France he was an officer of the army aid societies in Berlin, and conducted the first sanitary trains into the enemies' territory. He was elected to the Prussian Chamber as one of the Freisinnig or Radical party in 1862, and served in that body continuously till his death. In this Chamber he was for 25 years chairman of the Committee on Finance, and to a very great extent he himself laid the foundation of the present constitutional budget system of Prussia, just as he is also responsible for the German laws in relation to fishing which he drew up or inspired when at the head of the German Fishing Association. From 1880 to 1893 he was a member of the Reichstag, in which he represented a Berlin constituency till ousted by the Social Democrats. Died in Berlin, September 5, 1902.

Virginal, a stringed instrument played by means of a keyboard, like the modern pianoforte. It was in form like a box, or desk of wood without legs or supports, and was usually placed on a table or stand. The strings were of metal, one for each note, and the sound was made by means of pieces of quill, whalebone, leather, or occasionally elastic metal, attached to slips of wood called "jacks," which were provided with metal springs. The compass was about three octaves. The virginal was a kind of oblong spinnet, and the precursor of the harpsichord, now superseded by the pianoforte.

Virginia, a State in the South Atlantic Division of the North American Union; bounded by Maryland, North Carolina, Tennessee, Kentucky, West Virginia, and the Atlantic Ocean; one of the original 13 States; capital, Richmond; number of counties, 100; area, 40,125 square miles; pop. (1900) 1,854,184; (1910) 2,061,612.

The surface of the State is diversified, rising in a series of terraces from the coast to the mountains in the N. W. Tide-water Virginia is penetrated by the Chesapeake Bay and has a shore line of 1,500 miles. The middle section of the State is an undulating plain with an elevation of from 200 to 500 feet and extends to the foot hills of the Appalachian range. The W. part of the State is mountainous, the Blue Ridge and Piedmont ranges crossing the State in a S. W. direction, and the Alleghenies forming the boundary of West Virginia. The Valley section is a broad belt of rolling country diversified by hills, ridges, and river valleys, lying between the Blue Ridge and Allegheny Mountains.

The principal mineral productions in 1900 included coal, 2,393,754 short tons, valued at $2,123,222; coke, 685,156 short tons, valued at $1,464,556; Portland cement, 58,479 barrels, valued at $73,099; gypsum, 11,940 short tons,

valued at $18,111; mineral waters, 1,141,859 gallons, valued at $272,868; gold, 155 fine ounces, valued at $3,200; granite, valued at $211,080; sandstone, $6,000; slate, $190,211; limestone, $403,318; and clay products, $1,093,784.

The production of tobacco amounts to nearly 70,000,000 pounds per year, and the annual peanut crop is valued at $2,500,000. In 1900 the principal farm crops were corn, wheat, oats, rye, buckwheat, potatoes, and hay.

According to the United States census of 1900, the State had 8,248 manufacturing establishments, employing $103,670,988 capital and 46,900 persons; paying $26,291,792 for wages and $74,851,757 for materials; and having an aggregate output valued at $132,937,910. The principal manufactures, according to the value of output, were flour and grist, lumber and timber, chewing and smoking tobacco and snuff, iron and steel, railroad cars, stemmed tobacco, cigars and cigarettes, foundry and machine shop products, and leather.

The Governor is elected for a term of four years and receives a salary of $5,000 per annum. Legislative sessions are held biennially in odd years, beginning on the first Wednesday in January, and are limited in length to 90 days each, but may be extended for a period not exceeding 30 days, upon a three-fifths vote of both houses. The Legislature has 40 members in the Senate and 100 in the House. There are 10 Representatives in Congress.

The first settlement in Virginia was made at Jamestown, by the English in 1607. George Washington first became known during the French and Indian War, in 1754 as an officer in the Virginia militia. This colony under the lead of Patrick Henry, was the first to resent British oppression in 1764. During the Revolution several important engagements took place on Virginian soil, most notable being the defeat and surrender of Cornwallis at Yorktown, Oct. 19, 1781. Virginia joined the Confederacy and passed an ordinance of secession on April 17, 1861, and became the scene of some of the most important battles of the Civil War; ending in the final surrender of Gen. Robert E. Lee at Appomattox Court House, April 9, 1865. Virginia was readmitted to the Union Jan. 27, 1870, and in 1881 celebrated the 100th anniversary of the surrender at Yorktown by laying the corner stone of a national monument, Oct. 18, 1881. During the Spanish-American War in 1898, an extensive military camp was established at Camp Alger, near Falls Church, in this State.

Virginia, the daughter of Lucius Virginius, whom Appius Claudius, the decemvir, endeavored to carry off from her parents. Her father, finding he could not save her by any other means, slew her in the open forum and raised an insurrection, which overthrew the decemvirate and restored the old magistracy. This happened, it is said, in 449 B. C.

Virginia, University of, an educational non-sectarian institution in Charlottesville, Va.; founded in 1825.

Virginian Creeper, a climbing plant, native to North America, used as an ornamental covering for walls, etc., and sometimes called American ivy. Its leaves turn a bright red in the autumn.

Virginian Opossum, the common opossum. It is about the size of a domestic cat; head long, large, and pointed, ending in a naked snout. Hair long, soft, and woolly, whitish at the roots and brownish at the tips, giving the animal a dusky appearance.

Virginian Deer, the common deer of North America. It is slightly smaller than the fallow deer; reddish-yellow in summer, light gray in winter; antlers recurving; tail about a foot and a half long. These deer are timid and wild, and therefore domesticated with difficulty. Their flesh formerly constituted the staple food of the native Indians.

Virginian Eared Owl, a large species common over the Northern States of the American Union. Length about two feet; reddish-brown on upper surface, mottled with black, and covered with regular bands of the same hue, lighter beneath; throat white; beak and claws black.

Virginian Quail, a species of rasorial birds and nearly allied to that of the partridges. The Virginian quail is also named the Virginian colin. It attains a length of 8 or 10 inches, and is of a reddish-brown hue, mingled

with gray and black above, and yellowish white below. The head and breast are reddish brown and the chin pure white. The voice is clear, and the note resembles the words "bob-white" — a name often familiarly given to the bird. The Virginian quail feeds mostly on grains and inhabits open grounds, but in winter it approaches the habitations of man. The eggs may number as many as 24. The bird is trapped in great numbers in winter. Its flesh is highly esteemed.

Virginia Military Institute, an educational non-sectarian institution in Lexington, Va.; founded in 1839.

Virginia Polytechnic Institute, an educational non-sectarian institution in Blacksburg, Va.; founded in 1871.

Virgin Islands, a group of the Leeward Islands in the West Indies; area 58 square miles; pop. 4,639. They consist of all the group not occupied by Denmark except Carab Island, which is Spanish. The inhabitants are mostly peasant proprietors; and cotton and sugar are cultivated. The chief town is Roadtown. The islands were named by Columbus in honor of the 11,000 virgins who were supposed to have been massacred with St. Ursula.

Visayas, The, a group of islands, which occupy the central part of the Philippine Archipelago, between Luzon on the N., Mindanao on the S., the Pacific Ocean on the E., and Paragua on the W.; area, 57,714 square kilometers; pop. (1903) 2,629,495. Many of the islands are mountainous, but there are valleys and plains which are usually very fertile. Agriculture is quite extensively carried on. There are large crops of rice, sugar cane, subacao, coffee, chocolate, wheat, corn, tobacco, hemp, etc. The forests of the islands are generally rich in excellent building and cabinet woods, such as molave, ipil, banaba, durigon, alintatao, narra, etc. There is also found in the forests an abundance of pitch, resin, gum, mastic wax, and honey. Gold, silver, lead, coal, marble, etc., are mined to a greater or less extent in some of the islands. Manufacturing is carried on to a considerable extent. In the province of Antique, on the island of Panay, the manufacture of fabrics from pineapple fiber, jusi, and sinamay, gives employment to about 12,000 women in some 7,000 shops. Hunting and fishing are also important industries.

Viscacha, in zoölogy, a stout-built rodent, resembling a marmot, from 18 inches to two feet long, exclusive of the tail, which is from six to eight inches. Four digits on the fore and three on the hind limbs, the latter furnished with long, compressed, and pointed nails; muzzle broad, and covered with a velvet-like coat of brown hair; fur mottled gray above, yellowish-white beneath; dark band on each cheek, a white band on muzzle, running back on each side almost as far as the eye. They are nocturnal, and resemble rabbits in their movements, but are less active. They are found

VISCACHA.

on the pampas, from Buenos Ayres to Patagonia These animals have the strange habit of dragging all sorts of hard and apparently useless objects to the mouth of their burrow, where bones, stones, thistle stalks, and lumps of earth may be found collected into a large heap, sufficient, according to Darwin, to fill a wheelbarrow

Viscera, in anatomy, the contents of the great cavities of the body, as of the abdomen, chest, and skull; but in popular language restricted to the organs of the thorax and abdomen; the bowels; the entrails.

Vischer, Peter, German sculptor; born at Nuremberg, Bavaria, in 1455; son of a worker in bronze. He attained great fame as an artist, and was patronized by both German and

foreign princes. He died at Nuremberg in 1529.

Visconti, an old Milanese family, celebrated for its political importance and its patronage of science. The family reached the summit of its grandeur and splendor in the reign of Gian Galeazzo, who assumed the government in 1385.

Viscount, a degree or title of nobility ranking next below an earl, and above a baron. It is the most recently established English title of nobility, having been first conferred by letters patent from Henry VI. on John Lord Beaumont, in A. D. 1440. The title of viscount is frequently held in England as the second title of an earl, and is borne by the eldest son as a courtesy title during the life of his father.

Viscum, the mistletoe. Known species believed to be about 100; from hot and temperate climates.

Vishnu, in Brahmanism, the second person of the modern Hindu Trimurti. When he first appears in Vedic times, he is simply the God of the Shining Firmament, the younger brother of Indra, and inferior to him in dignity. By the time that the epic poems, the Ramayana and the Mahabharat, were composed, Vishnu had made a considerable advance to his present position, the full attainment of which, however, was reserved for the period of the Puranas. One of these books is called the Vishnu Purana. He is regarded as the member of the triad whose special function is to preserve. His most enthusiastic followers are generally drawn from the middle classes of Hindu society. His mark on their foreheads is a trident, with a yellow fork in the center, and a white one on each side. Many monastic sects worship him almost exclusively.

Visible Church, in theology, the Church, as seen by man, not as it appears to God. It includes the whole body of professing Christians, some of them regenerate, others unregenerate; the two classes commingled, as were the wheat and tares mentioned in the parable. It is distinguished from the Invisible Church, consisting only of the regenerate; but who are worthy of this designation is known only to God.

Visible Speech, the system of expressing speech sounds by written symbols, invented by Prof. Alexander Melville Bell during the years 1849–1864. Its fundamental principle is, says its author, "that all relations of sound are symbolized by relations of form, each organ and each mode of organic action having its appropriate symbol, and all sounds of the same nature produced at different parts of the mouth (such as t and d, b and p) being represented by a single symbol turned in a direction corresponding to the organic position." Among the advantages claimed for visible speech by Professor Bell are its power of representing the exact sounds of foreign languages, and the facilities offered by it toward teaching the illiterate and blind to read, and the deaf and dumb to speak.

Visigoths, the Western Goths, who came from Scandinavia, and settled in Mœsia, A. D. 376. They established themselves in Gaul A. D. 412, and, passing into Spain, founded a kingdom there in 414, which was overthrown by the Moors in 712.

Vision, the act of seeing, that faculty of the mind by means of which through its appropriate material organ, the eye, we perceive the visible appearances of the external world. Vision is mainly concerned with the color, form, distance, and tridimensional extension of objects. It is caused by impact of ether waves on the retina of the eye, but if these waves be longer or shorter than a certain limit there is no visual impression produced by them. The apparent color of an object depends partly on the wave length or wave lengths of the incident light waves, single or mixed, and partly on the state of the eye itself as in color blindness, or after taking santonine, which makes external objects look yellow, or in jaundice. The apparent brightness of an object depends on the amplitude of the light waves which pass from it to the eye and the smallest perceptible difference of brightness always bears a nearly constant ratio to the full intensity of the bright objects (Fechner's psychophysical law). As between different colors the eye perceives them with different intensities, even when the physical intensity is the same; thus

yellow appears brighter in a bright light than an equally intense red; and as light fades away the different colors fade away unequally, so that the ratio in Fechner's law is different for each color; red and yellow disappear first, blue last; and thus in a dim light the blue is the brightest.

Vison, a genus of carnivorous quadrupeds included in the weasel family. Of this genus the mink is the most familiar example. It inhabits Northern America and Northern Europe, attains a length of a foot and a half or rather less, and is of a brown color, marked with white on the chin and jaws. The vison swims with great ease, the feet being slightly webbed. The fur is very valuable.

Vitellius, Aulus, a Roman emperor; born A. D. 15. On the death of Galba he was proclaimed emperor by the soldiers at Koln, Jan. 2, 69 A. D., and having crushed his rival Otho he secured undisputed possession of Italy. Though undoubtedly a man of low character, he did not proceed to extreme measures against the adherents of his rival. His chief passion was sensual gluttony, and he spent enormous sums of money in eating and drinking. Vespasianus revolted and was proclaimed emperor July 1 at Alexandria, and Antonius Primus declared for the new emperor and hastened into Italy at the head of a powerful force. He defeated the generals of Vitellius twice and entered Rome on Dec. 21 or 22, 69. The fallen emperor was seized, dragged with every mark of ignominy through the streets, and murdered.

Vitis, the typical genus of the order Vitaceæ, comprising the vines. The Vitis Vinifera is popularly known as the grape vine.

Vitriol, a commercial name for sulphuric acid, and for several salts which that acid forms. The term vitriol was in common use among the alchemists, and was derived from vitrium, "glass," on account of the glassy appearance and transparency of copperas or green vitriol (the sulphate of iron). From copperas the alchemists prepared a strong sulphuric acid by distillation, whence also the acid was termed the oil of vitriol. In addition to these there is yet commercially known blue vitriol, which is a sulphate of copper, and white vitriol, the sulphate of zinc much used in medicine.

Vitus, St., a reputed martyr under Diocletian, the son of a Sicilian pagan, but converted by his nurse Crescentia and her husband Modestus. All three perished together, in Lucania or at Rome, the festival falling on June 15. The relics of St. Vitus are preserved at Corbey and at Prague. He is invoked against sudden death, hydrophobia, prolonged sleep, and the complaint commonly called the chorea or dance of St. Vitus; some authorities make him also the patron of comedians and dancers. It is said that in Germany in the 17th century it was a popular belief that good health for a year could be bought by bringing gifts to his image and dancing before it on his festival — a practice especially in vogue at his chapels at Ulm and Ravensberg.

VITIS VINIFERA.

Vivandiere, a woman attached to French and other European continental regiments, who sells provisions and liquor. The dress of the vivandieres is generally a modification of that of the regiment to which they are attached.

Viverra, the civet cat, with the range of the family. All the species are extremely active, fierce, and rapacious, and feed chiefly on small mammals and birds.

Vivisection, a term denoting, in its strict signification, the dissection of living animals, but popularly employed to denote the practice of performing operations with the knife on living animals, with the view (1) of increasing physiological knowledge; (2) of converting speculative into positive conclusion; and (3) of acquiring manual dexterity in operative surgery. In this last sense vivisection is principally confined to the French veterinary schools. By biologists the term is extended to include the performance of all scientific experiments of a kind calculated to inflict pain on living animals, and having for their object the investigation of the laws which govern life, the processes of disease, the action of heat and cold, poisons, and therapeutic remedies. The practice appears to have been introduced by the Alexandrian school in the 4th century B. C.; and to this practice we owe, among many other benefits, the discovery of the circulation of the blood by Harvey; the treatment of aneurism by ligatures by Hunter; the distinction of the sensory and motor nerves by Bell; the introduction of chloroform; and the improved treatment of cerebral diseases which resulted from the researches of Brown-Sequard and Bernard. Among the chief investigators by this method of research at the present day are Burdon-Sanderson, Greenfeld, and Klein, in England; Pasteur in France, and Koch in Germany.

Vivisection has met with vigorous and organized opposition in Europe as well as in the United States, where bills have been brought before various legislatures for the restriction or abolition of the practice. On Feb. 21, 1900, a Senate Committee gave a hearing in Washington, on a bill "For the Further Prevention of Cruelty to Animals in the District of Columbia," prominent professional men and officials appearing on both sides. The proceedings were afterward published. President Eliot of Harvard is one of the leading advocates of vivisection in the United States, basing his arguments on the great advances made by its means in medical science in recent years. He objects, however, to its use in secondary schools or before college classes for the purpose of demonstration only. In England, the passage of the "Cruelty to Animals Act" of 1876 legalized vivisection with restrictions according to which it must be performed under license, the only experiments allowed without anæsthetics being such as inflict no pain greater than the prick of a needle. Vivisection comes within the restraints imposed by State laws against cruelty to animals, and is vigilantly watched by anti-cruelty societies.

Vizier, the title of a high political officer in the Turkish empire and other Mohammedan states. The title is given in Turkey to the heads of the various ministerial departments into which the divan or ministerial council is divided, and to all pashas of three tails. The prime minister, or president of the divan, is styled the grand vizier, vizier-azam, or sadr-azam. In India vizier was the title of the highest officer at the Mogul court at Delhi; and nawab-vizier ultimately became the hereditary title in the dynasty ruling at Oude.

Vladimir I., a Czar of Russia, commonly called Vladimir the Great, or Saint Vladimir; son of the Grand-Duke Sviatoplav by a woman of low condition, and great grandson of Rurik. His father assigned to him the government of Novgorod, dividing the rest of the empire between his two legitimate sons, Jaropalk and Oleg. In 977 Jaropalk quarrelled with Oleg and killed him, and Vladimir would probably have met the same fate had he not fled to Ukrania. Two years later he returned with an army, overcame Jaropalk, and remained sole master of the empire, having his capital at Kiev. He then set himself both to extend and to consolidate his dominions, which were little better than a collection of tributary states, scarcely subject to any real control. He enlarged his boundaries from the Black Sea to the Baltic, and appears to have had an intention of welding his empire into a homogeneous mass

through the agency of a common religion, in which he tried to combine the Slavonian and the Finnish superstitions. In 988, however, an event occurred which altered his schemes entirely. He had already five wives and almost 1,000 concubines, but while besieging the Christian city of Cherson, in the Crimea, he conceived the idea of demanding the hand of Anna, the sister of the Byzantine Emperors Constantine and Basilios. Through the agency of this princess, known in history as Anna Romanovna, he was converted to Christianity. His subjects, who had already been prepared for Christianity by intercourse with the Greeks, followed his example. The Scriptures had already been translated into Slavonic by Cyrillus and Methodius, and Russia soon became a Christian country. Vladimir was then as enthusiastic in his Christian virtues as he had formerly been in his heathen vices. He could scarcely be induced to sanction capital punishment, he exercised a lavish charity, built churches and monasteries, and promoted not only the Christianization but also the civilization of his subjects. He died in Beresyx in 1015 at a great age, and divided his empire among his 12 sons. The Russian Church canonized him, and gave him a rank equal to that of the Apostles, and the famous "Vladimir order" was founded in his honor in 1782.

Vladimir II., called Monomachus, after his maternal grandfather, the Emperor Constantine Monomachus, was born in 1052, and succeeded to the empire in 1113, in opposition to the ordinary Slavonic rules of inheritance. Though not free from some of the barbarisms of his age, he did much for Russia by the establishment and enforcement of just laws, and the consolidation of the internal affairs of the empire. He was married to Gida, daughter of King Harold of England, and his granddaughters married the kings of Norway and Denmark, so that the famous Vlademar, of Denmark, was his great-grandson. He died in Kiev, May 19, 1126, leaving behind him a long "testament" full of instructions to his descendants, which presents a curious picture of contemporary manners and opinions.

Vladivostok, a seaport of Eastern Siberia, in the Gulf of Peter the Great, Japan Sea. Founded in 1861, it has become the great naval station of Russia on the Pacific, and is also an eastern terminus of the Trans-Siberian railway. It is strongly fortified on the land as well as the harbor side, has two large dry docks, extensive shipbuilding yards and mechanical shops, and has every modern improvement in the form of electric railways, street-lighting, etc. The Russian Pacific fleet had its nominal headquarters at Vladivostok, but the outbreak of the Russo-Japanese War in 1904, found the major portion of their ships at Port Arthur, where they received severe damage and losses. A small squadron remained at Vladivostok which was effectually bombarded in March by the Japanese. The Vladivostok squadron made sorties in which they inflicted some damage on Japanese shipping.

Vogel, Sir Julius, an Australasian statesman; born in London, Feb. 24, 1835, of Jewish parentage. He went to Melbourne during the gold rush, and after being engaged in various business pursuits and on the gold fields, devoted himself to journalism. He afterward went to Dunedin, N. Z., became a member of the House of Representatives and of the Provincial Council of Otago. He held ministerial office frequently after 1869, and was agent-general in London from 1876 to 1881. He established the first daily newspaper in New Zealand, and the mail service between San Francisco and New Zealand, and his name was connected with all the public enterprises of his day in New Zealand. During the 10 years preceding 1881 he was the means of introducing 100,000 immigrants and of building 1,200 miles of railways in the colony, and was influential in bringing about Australian federation. He was knighted in 1875. He died March 13, 1899.

Voice, an audible sound produced by the larynx, and effected by its passage outward through the mouth and other cavities. When so modified in particular ways it becomes speech or song. The main differences between these two latter are that speech is more limited in compass or pitch, that

it is less sustained in respect of pitch, and is not confined to the notes of a musical scale, that it is associated with a less clear or open passage for the breath, and that it presents certain utterances (consonantal, aspirate, guttural, etc.) which have not a purely musical character. The larynx is the organ by which the so-called vocal sounds (or primary elements of speech) are produced.

The larynx contains within itself a great power of adjustment, such as is possessed by no musical instrument; the tension of the vocal cords can be varied, the vibrating portion of the vocal cords can be shortened; the distance between them can be varied; their form can be altered, as by blunting their free edges or by flattening their whole structure; and they can be prevented from vibrating in their whole breadth, the vibrations being then confined to their margins merely; and these adjustments may be combined so as to suit different pressures of air from the lungs. Further, above and below this primary sounding apparatus there are adjustable cavities, which act as resonators, and thus affect the quality of the sound produced.

The actual action of the larynx as a sounding instrument has only been clear since Garcia introduced (1855) the laryngoscope as a means of observing what went on during actual vocalization; and a flood of light has been thrown on the subject by the researches of Czermak, Merkel, Madame Seiler, and Behnke. The crico-thyroid muscles pull the thyroid cartilage and the cricoid cartilage together; the vocal cords are thus tightened; and the posterior crico-arytenoid muscles aid in this. The thyro-arytenoid muscles relax the vocal cords, and twist the arytenoid cartilages round so as to make their attachments to the vocal cords come over toward one another instead of lying at some distance from the middle line; and they can also so act as to press portions of the vocal cords together, and thus shorten the free vibrating edges; and further, they can squeeze their own inner portions thin, and thus flatten and thin the vibrating part of the vocal cords. The posterior crico-arytenoid muscles, in addition to aiding in tightening the vocal cords, twist the arytenoid cartilages so as to widen the back part of the chink between the vocal cords; while the lateral crico-arytenoids as well as the thyro-arytenoids perform the reverse operation, and thus narrow the chink, and are assisted in this by the arytenoideus muscle, which directly pulls the arytenoid cartilages together. These muscles in combination effect the various adjustments above spoken of. In a state of rest the glottis lies open, and respiration is unimpeded; in deep breathing the chink is still wider, but as soon as we wish to utter a note the two arytenoid cartilages rapidly approach one another, and the glottis-chink is narrowed. At the same time the superior or false vocal cords approach, but never touch one another. If the vocal cords meet one another before the current of air flows to produce the tone, there is a disagreeable jerk or click at the commencement of the note; if the air flows before the vocal cords have sufficiently approximated, there is an aspirate, and the "attack" or beginning of the note is uncertain; the two actions ought to coincide in time, and then the "attack" is clear and precise, for the vocal cords are brought to the right place for vibration at the very time when the air begins to tend to set them in motion.

In different larynxes much depends on the relative sizes of the vocal cords; thus a man with a bass voice has longer vocal cords than a child or a woman; but as between basses and tenors, tenors and contraltos, or contraltos and sopranos, the higher voice may sometimes appear to have the longer vocal cord; on the other hand, slenderness of structure makes up for greater length, and when the vocal cords are long and slender, the voice is "flexible," for the cords readily enter into vibration. Further, a narrow larynx is conducive to high pitch, and so is not only the size, but also the form of the female larynx, in which the upper part, above the false vocal cords, and between them and the hyoid bone, is comparatively flat. In children the larynx is small, and the voice high-pitched; but the larynx

grows very rapidly at puberty; and as its different parts do not then grow with proportionate rapidity, the muscular control is uncertain, and the voice, especially in boys, breaks.

Voit, Karl von, a German physiologist and author; born at Amberg, Bavaria, in 1831. He was educated at Munich, Wurzburg, and Göttingen, and after a period as Bischoff's Assistant at Munich, became professor of physiology there in 1863. Two years later, he founded the "Zeitschrift für Biologie," a periodical in which he laid the foundations of his celebrity, by his writings on nutrition, etc.

Voiture, Vincent, a French courtier and poet; born in 1597; died in 1648. His wit was redoubtable; and his works published posthumously in 1850, have passed through several editions.

Volapuk. The story of Volapuk, the youngest member of the artificial family of languages, has been so often told that it need not be repeated at length here. How Johann Martin Schleyer, an obscure but scholarly German priest, devoted 20 years of study to the subject; how the whole scheme flashed across his mind one sleepless night, and how in a few days afterward Volapuk was born, has often been related, although "Volapuk" is making but little headway.

Schleyer's years of linguistic study as a preparation for his task, were spent in examining the structure — the mechanism of the important languages of the world. When he had closed his researches in this field, he chose the Aryan family as the general model for his invention. His aim was to produce a language free from all the defects of one of natural growth, with all irregularities and speech peculiarities eliminated. He called his invention Volapuk—"World's Speech." Since then its aim is so high, it must of necessity in its sounds, in its words, and in its structure be so simple and so regular as to be easy of acquisition by persons in all parts of the earth. To this end, sounds peculiar to our language and difficult for persons not natives were not employed. The Roman alphabet was used with the exception of w and q. To this the letters ä, ö, a, d, ü were added, making an alphabet of 27 letters. The vowels are sounded as the long vowels in Italian and have but one sound. The consonants are sounded, in the main, as in English. In the compromise made necessary by the purpose of Volapuk each language had to surrender something. French gave up its nasals; German, its gutturals; Italian, its liquids, while all alike gave up their articles and analytic form. Volapuk is a synthetic and inflectional language like Latin. By this means it can express thought with great clearness and conciseness. The order of the words in a sentence, however, is of the modern type.

The radicals, or root words, form the basis of the language. These are usually nouns. About 40 per cent. of these have been taken from English; the rest are from other Aryan languages, chiefly German, Latin, and French. By what methods the radicals, or root words, were made ready for use and from what source they were taken will now be shown. The general principle determining the choice of a root seems to have been brevity, clearness, and ease of utterance. For these reasons the Volapuk word for man is man, a Germanic form, while the word for house is dom, a Latin form. The word for time is tim, from the Rumanian (timp); for bridegroom, gam, from the Greek. These radicals are generally of one syllable and begin and end in a consonant, that the case endings of the nouns and arguments and personal endings of the verbs may be applied directly to the root.

Volcanic Rocks, in geology, rocks which have been produced at or near the surface of the earth in ancient or modern times by the action of subterranean heat, by water, and pressure. They form one of the leading divisions of rocks, and resemble plutonic rocks in being generally unstratified and destitute of fossils, but are distinguished from them. Volcanic are more partially distributed than aqueous rocks. Old volcanic rocks are so nearly identical with the products of modern volcanoes, that the two were undoubtedly produced in a similar manner. The leading volcanic rocks are basalt, andesite, and trachyte.

Volcanic Regions, certain regions of the world throughout which volcanic and earthquake action specially prevails. They run in lines. The region of the Andes extends from lat. 43° S. to 2° N.; that of Mexico follows, then that of the West Indies. Another extends from the Aleutian Islands to the Moluccas and the Isles of Sunda, another from Central Asia to the Canary Islands and the Azores. There is one in the Grecian Archipelago, having its chief focus at Santorin, known to have been active at intervals for 2,000 years; then that of Italy and Sicily, having vents in Etna, Vesuvius, and Ischia. One region is in Iceland, with Hecla as its chief vent. Volcanoes are generally near the sea. Jorullo, in Mexico, is, however, an exception, being 120 miles from the nearest ocean.

Volcanoes. Ages ago the earth on which we live was a huge mass of "fire mist." Astronomers tell us that today in the heavens we can see vast nebulæ, suggesting what the earth was once. Gradually the surface of the "fire mist" cooled and hardened, but the interior is still intensely hot. Whether it is solid, liquid, or viscous we do not know. This heat, raging miles below the surface, at times escapes through the hard crusts by vents or volcanoes.

There are from 300 to 360 volcanoes on the globe. This estimate includes merely live volcanoes and volcanoes which within recent times have been in action. If we should count the many mountains scattered over the earth which today show signs of volcanic action in more remote past, the estimate would have to be increased by many hundreds.

Volcanoes would seem to be arranged with more or less symmetry in belts circling the great oceans. A ring of fire surrounds the Pacific. Starting at the South Shetland Islands, several hundred miles S. of Cape Horn, a belt of volcanoes extends up the W. coast of South America; Central America and North America; from Alaska it crosses the Pacific along the Aleutian Islands to Kamchatka; thence it follows the E. edge of the Pacific through the Kurile Islands, Japan, Formosa, the Philippines, the Moluccas, the Solomon Islands, the North Hebrides, New Zealand, and finally ends in Mts. Terror and Erebus, on the Antarctic continent. The volcanoes forming this great belt are in places ranged in chains, as along the W. coast of Central America and in the Aleutian Islands; elsewhere they are separated by long distances, but nevertheless they would seem to have some connection with each other. Sometimes the line of volcanoes surrounding the Pacific is very narrow, as in Central America, and then again it broadens hundreds of miles, as in the W. United States, where extinct volcanoes on the E. edge of the belt are hundreds of miles from the ocean and distant from each other.

Within this great Pacific circle of volcanoes, 25,000 miles in length, are many volcanic islands; the Ladrones, the Hawaiian Islands, with the famous Mauna Loa; the Galapagos, the Samoan Islands, as well as the Tonga and Fiji Archipelagoes, and many smaller groups. The coral islands may be classed as volcanic, as they rest in great part on volcanic foundations.

Eastward from the circle around the Pacific a branch belt extends through Sumatra and Java. On the broken isthmus which ages ago joined Asia and Australia are over 100 volcanoes, many of which are constantly belching forth mud, lava, or ashes. This is the great focus of volcanic action of the earth. Round nearly three sides of the Atlantic basin volcanic districts are scattered with some apparent symmetry. In the far N. Hekla and nearly one score others separate the Atlantic from the Arctic Ocean. Stretching from Iceland, from N. to S. an irregular submerged ridge bears the volcanic mountains of the Azores, the Cape Verde Islands, Ascension, St. Helena, and Tristan da Cunha. On the W. edge of the Atlantic are the volcanoes of the West Indies; but N. or S. of the Antilles there is not a single volcano on the E. shore of America. The volcanic belt of the Mediterranean shore is prolonged to the mountains of Armenia and Western Arabia. There are said to be some volcanoes in Tibet and Manchuria, but the explorer has not yet located them.

Elisee Reclus has drawn attention to the fact that the great centers of volcanic action in the Western and Eastern hemispheres are at exactly opposite ends of the globe — are at antipodes to each other — and that these centers of activity are near the poles of flattening. They also flank, one on the W. and one on the E., the immense circle around the Pacific.

Volcanoes may be roughly described as of two types — the expulsive and the explosive. Of the first, Hekla, in Iceland, Stromboli, and Mauna Loa in the Hawaiian Islands, are good examples. They pour forth masses of lava which flows like molasses. Of the second type are Vesuvius, Mont Pelee, the volcanoes of the West Indies, and those of the Andes and Mexico; these eject the material andesite, and are more explosive than those ejecting the ropy lavas.

Theories abound as to the cause of volcanic action, but of actual causes we know little. Science has no X-rays to pierce into the bowels of the earth.

Lafcadio Hearn, in one of his interesting sketches of the French West Indies, published some years ago, tells the story of perhaps the only man who ever descended into the earth while it quaked. It seems that during a certain convulsion that shook and rent a certain island of the West Indies one man was thrown far down a fissure. He was unharmed, but his position, as he tumbled far down in the fissure, was not such as to inspire hope of a scientific study of what had happened or was happening. After some time passed there in the bowels of the earth, another convulsion shook and rent the ground. It tossed him up and out of the fissure and landed him unharmed on solid and firm ground; but when asked how it had all happened, the process of all this tossing, he could not explain. Science had lost its one chance of learning by personal observation what is happening beneath us.

Perhaps the most probable explanation of explosive eruptions of volcanoes is as follows:

The rocks deep beneath the surface are kept moist by the water that slowly seeps through. Probably the rocks contain from 3 to 20 per cent. of water. The heat of the molten mass beneath the rocks gradually generates steam, and as time goes on more and more steam is generated. The pressure of this steam is constantly increasing till a time comes when the weight above cannot hold in the expanding force of the steam. Like a boiler, the whole mass explodes with terrific fury. An earthquake may open a fissure, which, by letting down water rapidly, will hasten the explosion; but it is doubtful if an earthquake can do more than this. Water entering by a fissure could hardly invade the vast area upheaved by an explosive eruption.

The Guatemalan earthquake of April probably timed the explosion of Mont Pelee and La Soufriere. It was the last straw; it brought the last ounce of pressure — one ounce more than the boiler could bear. The local earthquakes in Martinique and St. Vincent were the ruptures and tremors caused by the fettered steam.

Two other factors may assist this process: The shrinking of the earth, which allows the molten mass to rise through fissures and generate steam more rapidly, and the change of load at the surface, caused by deposition or degradation, which thus disturbs the law of equilibrium.

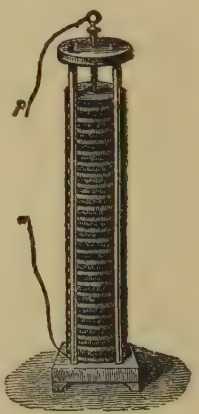
Volga, the largest river of Europe; rises in the Central Russian province of Tver, near the Dwina, about 200 miles from the Gulf of Finland; flows in a generally S. E. direction to the Caspian, which it enters by 8 principal and 200 smaller mouths, forming a delta 68 miles in breadth. About 100 tributaries join this giant river, which with its affluents has a drainage area of 592,300 square miles, waters 22 provinces, and measures from its source to its mouth 2,400 miles. Its breadth at Tver is 705 feet, at the mouth of the Mologa 1,542 feet, above the influx of Kama 4,920 feet and opposite the mouth of the Kama nearly 5 miles. The course of the Volga is very slow, its total fall is only 896 feet, and its channel is comparatively shallow, its greatest depth being 85 feet. The Volga is free from ice for 200 days in the year, in Kostroma, Jaroslav, and Kasan for 152. Steamers ply regularly on its waters

between Tver and Nijni-Novgorod, Kasan, and Astrakhan, and from Nijni Novgorod by the Kama to Perm, by the Oka to Riazan, by the Ufa to Ufa, and by the Unsha to Ugor. The three great canal systems of Vishni-Volotchok, Tichvin, and the Marien canal, connecting the Volga with St. Petersburg, and the canal of the Duke of Wurtemberg joining it with the Dwina, made an unbroken water way between the Baltic and the Caspian Sea. A canal to join the Volga with the Don, between Zarizyn and Katchalinsk, was projected by Peter the Great, but was never executed. Its purpose is now effected by the Zarizyn-Kalatsch railway. The Volga has extensive fisheries, chiefly of salmon and sturgeon.

Volt (named in honor of Alessandro Volta), in electricity, the unit which expresses difference of potential. An electrical current is in many respects analogous to a flow of water. The fundamental unit is one of mere quantity, the coulomb, and merely expresses sufficient current to do a certain amount of work. But the same quantity of water would flow through a large pipe at one inch per second, and through one-half the diameter at four inches per second. Hence we get the unit expressing quantity per second (the ampere); and thirdly, as a greater pressure or force is required to drive water at a given rate per second though a small pipe, or greater resistance so as to maintain a given quantity per second, in electrical currents we have this force or pressure, considered as the difference of potential or electrical pressure at the two ends of the circuit of wire. The resistance of a wire to the passage of a circuit is measured in ohms (units), and a volt is the difference of potential required to drive an effective current of one ampere through a wire interposing the resistance of one ohm.

Volta, Count Alessandro, an Italian natural philosopher; born in Como, Italy, Feb. 18, 1745. Two treatises, published in 1769 and 1771, in which he gave a description of a new electrical machine, laid the foundation of his fame. He was successively Professor of Physics at the gymnasium in Como and in the University of Pavia. He invented the electrophorus, electroscope, electrical condenser, electrical pistol, and the voltaic battery in the form known as "crown of cups." He also devised several other electrical appliances, and in 1800 the voltaic pile. To him is due the theory that electricity is generated by the contact of dissimilar metals, a correction of Galvani's animal electricity theory. In 1782 he made a tour through France, Germany, England, and Holland. In 1801 Napoleon invited him to France, where a medal was struck in his honor. In 1810 he was created a senator of Italy, with the title of count; and in 1815 was made director of the philosophical faculty of Padua. Volta's name is perpetuated in a large number of electrical terms. He died in Como, March 5, 1827.

Voltaic Pile, Volta's arrangement for producing a current of electricity, consisting of a pile of alternate disks of two dissimilar metals, as copper and zinc, zinc and silver, zinc and platinum, separated by pieces of flannel or pasteboard moistened with salt water or with water acidulated with sulphuric acid.



VOLTAIC PILE.

Voltaire, the assumed name of Francois Marie Arouet, a French poet, historian, and philosopher; born in Chatenay, near Paris, in 1694. He was educated at the College of Louis le Grand, a celebrated Jesuit institution.

In 1716 he was committed to the Bastille, on suspicion of being the author of a satirical poem on Louis XIV., and remained there a year. His first literary work of mark was the tragedy of "Œdipe," which, with much difficulty, he got represented in 1718. During a visit to Brussels in 1721, he was introduced to Rousseau, but this interview made enemies of them forever. He was sent to the

Bastille a second time, in consequence of a quarrel at the Duke de Sully's house, and after his release, spent three years in England, where the prevalence of free-thinking made an atmosphere congenial to him. Here, in 1728, he published his celebrated epic poem, "La Henriade," under the title of "La Ligue," and applied himself to other literary labors. He rose speedily to the summit of renown as an epic poet; was courted in all the higher circles; and when he returned to France, he found himself a sort of national idol among the French. After the publication of several plays, he retired, about 1735, to Chateau de Cirey, near Vassy, in Champagne, belonging to the Marchioness du Chatelet, a lady celebrated for her love of mathematics and abstruse sciences, and who read Leibnitz and Newton in the original Latin.

During the several years of his residence with Mme. du Chatelet, a connection which Lord Brougham defends as entirely Platonic, he wrote, between other works, his "Elements of the Philosophy of Newton," in which he explained the theories of the great discoverer with clearness, elegance, and learning, though perhaps not always with accuracy. A new epoch opened in his life, when, in 1736, he was flattered by a letter from Frederick, Prince-royal of Prussia, afterward Frederick the Great. These two remarkable men first met after the accession of Frederick to the throne in 1740. The meeting was at a chateau near Cleves, and a second took place soon after at Berlin. For a while, in 1746, Voltaire removed to Paris, where he received the appointment of historiographer of France, and gentleman of the king's bed chamber. He was at the same time received at the Academy. Soon losing favor at the court, he accepted, in 1750, the often renewed invitation of Frederick II. to settle at his court. Frederick received him with transports of joy. He was lodged in the apartments of the Marshal de Saxe; the king's cooks, servants, and horses were placed at his disposal; he was granted a pension of $4,000; and he and the king studied together for two hours a day, while he was welcomed to the king's table in the evening. At first the connection seemed a charming one, but Voltaire soon learned by demonstration, not only that courts are wearisome places, but that Frederick of Prussia and Francois Arouet were too much like each other to become real friends. Their intimacy, chiefly fruitful in jealousies, dissensions, and all kinds of uneasiness, ended after three years by the flight of Voltaire. After a short stay at Colmar, and some trouble about his "Essay on Morals," he settled with Madame Denis at Ferney, then a mere hamlet, near the Genevese territory. There he passed the last 20 years of his life, unwearied in writing, and at the same time active in promoting the interests of the little village, which, under his fostering care, grew up into a neat little town, and became the seat of a flourishing colony of watchmakers. The works of Voltaire are numerous. He died in 1778.

Voltmeter, in electricity, any instrument for measuring the pressure, electromotive force, or difference of potentials at the ends of an electric current. The gold-leaf electroscope is a kind of voltmeter, but will only measure large differences of potential. If the terminals are connected with flat plates arranged parallel to each other, one of which is movable, the attractive force between the plates at a given small distance will be a voltmeter. This method is too coarse for ordinary currents, but a modification of it is employed in Thomson's quadrant electrometer. In Cardew's voltmeter the heating effect of the current in a wire, which varies with the electromotive force, and is measured by the expansion produced, is employed. In the majority of instruments the electro-magnetic action is employed in some form of galvanometer. These are more usually wound to act as ammeters, but if wound with very thin wire the high resistance allows the electromotive force required to drive a certain current through them to be calibrated and denoted in volts. Such instruments are adjusted or calibrated by comparison with a "standard" voltaic cell or voltameter.

Volume, the space occupied by a body: dimensions in length, breadth, and depth; compass, mass, bulk.

Volunteers of America, a philanthropic and religious organization, inaugurated March 9, 1896, and incorporated Nov. 6 following, of which by the popular vote of its members General Ballington Booth was elected president. Though it was not intended to extend beyond the city of New York, its work of benevolence and sociology has spread till it now reaches almost all the important centers of the United States, besides having representatives in foreign fields. During the fiscal year ending Sept. 1, 1910, the following results were attained, according to a statement prepared in the office of President Ballington Booth expressly for this work:

During the year 4,989 women were cared for in the Homes of Mercy, and 38,743 beds were provided in these institutions. The Volunteer workers visited and aided no less than 34,318 families in and around the poorest sections of the large cities. No less than 334,890 persons were lodged in the homes and institutions for working men and women, and many thousands were given temporary relief during the strikes in several sections of the country. There were 640,944 persons fed with substantial meals in the above institutions, apart from those assisted temporarily during the holiday and festical occasions. In the Volunteer hospital located in New York city, 14,001 new and 17,767 old cases were treated in the Dispensary. During the year also 2,445 days' treatment were given to free patients; 3,909 to public charges, and 574 to pay patients.

The Volunteer Prisoners' League, under the direction of Mrs. Maud Ballington Booth, has embraced in all some 72,000 members, of which it is safe to assert that 79 per cent. are leading reformed lives. By correspondence and service it is directly and indirectly in touch with 80,000 men behind the bars to-day. During the year 926,953 persons attended the Volunteer Sunday and week-night services; while 2,733,842 persons gathered in the open air services.

Volute, in architecture, a kind of spiral scroll used in Ionic, Corinthian, and Composite capitals, of which it is a principal ornament. The number of volutes in the Ionic order is four. In the Corinthian and Composite orders they are more numerous, in the former being accompanied by smaller ones, called helices; called also voluta. In zoölogy, any individual of the genus Voluta.

VOLUTES OF THE IONIC AND CORINTHIAN CAPITALS.

a, volutes; *b*, helix.

Voodoo, or **Voudoo,** a name given by the negroes of the West Indies and the United States to superstitious rites and beliefs brought with them from Africa, and to the sorcerer who practised these rights.

In the Southern States of the Union there was at one time a widespread and deep-rooted belief in the power of these sorcerers. As the negroes advance in education, the belief is dying away. At one time, however, despite all efforts of religious teachers to banish the mastery of this belief from the minds of the slaves, the voodoo "doctor" was an almost omnipotent individual in the estimation of his fellows. No slave could, under any pretext, be persuaded to expose himself to the vengeance or wrath of one of these conjurers. In some cases there was a reasonable foundation for these fears; for in not a few instances has it been proven that some of the voodoos were skillful poisoners, and while the great mass of their professed art was a rank imposture, still they possessed enough of devilish skill to render them objects of wholesome dread. If a negro desired to destroy an enemy, he sought the aid of the voodoo, who, in many cases, would undertake to remove the obnoxious one, and the removal was generally accomplished through the medium of

poison. No doubt exists that in many cases the victim of a voodoo died from sheer fright, for whenever a negro had reason to think that he was possessed by the spell of the voodoo, he at once gave up all hope, thus hastening the accomplishment of the end toward which the energies of the sorcerer were directed. The field in which voodooism flourished best was the far South among the rice, cotton, and sugar plantations, where the negroes were not brought into contact so closely with their masters as they were further North.

Voorhees, Daniel Wolsey, an American statesman; born in Liberty, O., Sept. 26, 1827; was a member of Congress in 1869–1873, and of the United States Senate in 1877–1897; served on the Senate Committee on Finance during his whole career in that body. He was also a member of the Committees on Library, Immigration, and International Expositions. The erection of the new Congressional Library was largely due to his influence. Owing to his tall and erect figure he was known as the "tall sycamore of the Wabash." He died in Washington, D. C., April 10, 1897.

Voorhees, Philip Falkerson, an American naval officer; born in New Brunswick, N. J., in 1792; joined the navy in 1809; and in the War of 1812, while with the "United States" participated in the capture of the "Macedonia," and while with the "Peacock" in that of the "Epervier." He was promoted captain in 1838, and was assigned to the new frigate "Congress." In 1844 he captured the armed Argentine squadron and an allied cruiser which had fired on a Boston ship. In 1847 he was placed in command of the East Indian squadron, a post equivalent to that of rear-admiral, which rank was not then established. He died in Annapolis, Md., Feb. 26, 1862.

Vow, a kind of promissory oath made to God, or to some false deity, to do or to forego something for the promotion of His glory, or to perform some act, or to dedicate to the deity something of value, on the fulfillment of certain conditions, or in the event of the vower receiving something specially desired, as recovery from illness, deliverance from danger, success in an enterprise, or the like. A vow may take the form of a solemn promise to follow out some line of conduct, or to consecrate or devote one's self, wholly or in part, for a longer or shorter time, to some act or service, or to maintain fidelity and constancy.

Vowel, a sound uttered by simply opening the mouth or vocal organs; a sound produced by the vibration of the vocal cords. The pitch or tone of a vowel is determined by the vocal cords, but its quality depends on the configuration of the mouth or buccal tube. A, i, and u are by philologists called the primitive vowels, and from them all the various vowel sounds in the Aryan languages have been developed. A vowel differs from a consonant in that the former can be pronounced by itself, while a consonant requires the aid of a vowel to be sounded with it. While there are only 5 vowel characters, yet there are 14 vowel and 5 diphthongal sounds in English.

Vulcan, in mythology, the Roman god of fire and the patron of all metallic handicrafts; the son of Jupiter and Juno, and identical with the Greek Hephæstus. Being extremely ugly and deformed, Juno, ashamed to own such a child, dropped him from heaven, when the infant god, falling into the sea, was rescued and adopted by Thetis, who kept him till nine years of age. He was then restored to his parents. Soon after his return to Olympus, Vulcan took his mother's part in one of the quarrels between husband and wife; Jupiter, enraged at Vulcan's audacity, flung him from heaven. After traveling a whole day, the youth alighted on the island of Lemnos, breaking his ankle in the fall; here he raised forges and workshops, and became the chief of artificers.

Vulcan, in astronomy, the name given to a planet, imaginary or real, between the sun and Mercury. The planet was called by anticipation Vulcan, but its existence still remains unconfirmed though M. Porro and M. Wolf of Zurich reported seeing its transit in 1876.

Vulcanite, a kind of vulcanized caoutchouc, differing from ordinary

vulcanized caoutchouc in containing a larger proportion of sulphur—from 30 to 60 per cent.—and in being made at a higher temperature. It is of a brownish-black color, is hard and tough, cuts easily, and takes a good polish. It is largely used for making combs, dental plates, and other objects.

Vulcanization, the act or process of vulcanizing, or of treating caoutchouc or india-rubber with some form of sulphur, to effect certain changes in its properties; as to render it insensible to atmospheric changes, increase its durability, and adapt it for various purposes in the arts.

Vulgate, the edition of the Latin Bible which, having been sanctioned by the usage of many ages in the Roman Church, was pronounced "authentic" by the Council of Trent. The name was originally given to the "common edition" of the Septuagint used by the Greek Fathers, and thence transferred to the "Itala" or the "Old Latin" version of both Old and New Testaments current during the first centuries in the Western Church. It finally passed to the present composite work, which gradually took the place of the "Old Latin."

The precise import of the term "authentic" applied to the Vulgate has been much discussed by Roman theologians. It is, however, clear that the council intended to make no comparison of the Vulgate with the original texts, but, considering it to be convenient that, among the several Latin versions then current, one should be guaranteed as authentic — i. e., substantially representing the original, and free from all error in faith or morals — declared the Vulgate edition tested by long usage within the Church to be such. The Vulgate thus defined to be an authentic version could not be the particular Clementine edition, which was not then in existence, but the Vulgate generically, or in its purest form. Though the official text is capable of improvement, it is agreed by the best judges that the Clementine editors made use of ancient manuscripts with discernment, and proceeded throughout on sound critical principles.

Vulture, any member of the family Vulturidæ included among the birds of prey. In all the vultures the head and neck are more or less bare, the beak is long and curved only at the tip; the legs and feet are large and powerful, but the toes and claws are relatively weak. They are thus well adapted for walking and feeding on the ground, but are unable to carry off their prey like the eagles and hawks. The wings are very strong, and their powers of swift and sustained flight are remarkable. Vultures are widely distributed throughout temperate and tropical regions, and the general habits of the various species are very similar, though they differ greatly in their choice of haunts. Thus one species frequents the rocky

THE KING VULTURE.

peaks of the Alps and another sweeps over the great plains of Africa; the king vulture dwells alone with his mate in the densest parts of the South American forests, while Pharaoh's chickens pick up a living as street scavengers in the towns of the East.

The chief food of the vultures is carrion; they rarely attack any living animal unless under great stress of hunger, when a wounded or feeble lamb or hare is sometimes killed. There has been much discussion as to whether vultures scent or sight their prey, but experiment has shown, apparently conclusively, that their sense of smell is not unusually acute, and they rely chiefly on their extreme keenness of vision, while the sudden

descent of one bird serves as a signal to many others. When a carcass is discovered by one, others arrive quickly on the scene from all points of the compass, though none may have been visible a few minutes before. Tearing off the skin with their powerful beaks they gorge themselves greedily on the flesh and entrails till nothing is left but the skull and larger bones. Smaller birds only venture to look on and watch for stray morsels which may be let fall, but in the neighborhood of towns the vulture's claim is sometimes — not often successfully — disputed by wandering dogs. After a full meal vultures may remain without food for many days. The young birds, which are carefully tended for several months, are fed by regurgitation of food from the crop of the parents.

One of the commonest European species is the griffin vulture, which occurs in Spain, among the Alps, and in the Mediterranean region generally. It makes a rough nest of branches and grasses, usually in a cavity or on a ledge of an almost inaccessible cliff. One, or at most two eggs are laid early in March, and the parents share the labor of rearing and tending the young. The adult bird measures 3½ feet in length; the general color is light brown with black markings, and there is a white ruff on the lower part of the neck. The eared vulture, an inhabitant of Africa, received its name from folds of skin on the head resembling ear-lappets. The Egyptian vulture is often called Pharaoh's chicken from its frequent occurrence in ancient Egyptian hieroglyphics, where it is used as an emblem of parental love. It is very common throughout Northern Africa and Persia, and breeds frequently in the S. of Europe. More than one specimen has been killed in England. The Egyptian vulture is raven-like in form; its wings are pointed, its bill slender, and half covered with a naked cere. The adult bird is little over 2 feet in length; its plumage is white with black wing-feathers.

W, the 23d letter of the English alphabet. It takes its form and its name from the union of two V's, the character V having formerly the name and force of U. The name "double u" is not, however, a very suitable one, being given to the letter from its form or composition, and not from its sound. In the Anglo-Saxon alphabet W had a distinctive character of its own, the modern letter being adopted in the 13th century. W represents two sounds: (1) The distinctive sound properly belonging to it, being that which it has at the beginning of a syllable, and when followed by a vowel, as in was, will, woe, forward, housework, etc.; (2) at the end of syllables, in which position it is always preceded by a vowel, it has either no force at all (or at most only serves to lengthen the vowel), as in law, paw, grow, lawful, etc.; or it forms the second element in a diphthong, as in few, new, now, vow, etc., being in such cases really a vowel, and equivalent to the u in bough, neutral, etc. It is formed by opening the mouth with a close, circular configuration of the lips, the organs having exactly the same position as they have in pronouncing the oo in foot.

Waco, city and capital of McLennan county, Tex.; on the Brazos river and the Texas Central and other railroads; 95 miles N. E. of Austin; is an important commercial and manufacturing center, one of the largest cotton markets in the State, and in a section chiefly devoted to cotton-growing and stock-raising; and is the seat of Baylor University (Bapt.), Texas Christian University, and St. Basil's (R. C.) and Paul Quinn (A. M. E.) Colleges. Population (1910) 26,425.

Wadai, or **Waday**, extensive and powerful negro State in Central Sudan; between Kanem and Bagirmi on W. and Darfur on E.; area 170,000 sq. miles; pop. 2,000,000; cap. Abeshr. Came under French control in 1903.

Waddell, James Iredell, an American naval officer; born in Pittsboro, N. C., July 13, 1824; entered the United States navy in 1841. In 1862 he joined the Confederate navy; served on several missions; and in 1864 took command of the "Shenandoah" and began a piratical warfare on American shipping on the high seas, capturing 38 ships. After the war he returned to the United States, and was for a time a captain in the service of the Pacific Mail Steamship Company. He died in Annapolis, Md., March 15, 1886.

Wade, Benjamin Franklin, an American statesman; born in Springfield, Mass., Oct. 27, 1800. About 1821 he removed to Ohio, where he was employed as a school teacher for several years. He studied law and was admitted to the bar in 1825. In 1837 and 1841 he was elected State Senator; in 1847 was chosen presiding judge of the 3d Judicial District of Ohio; and in 1851, 1857, and 1863, was elected United States Senator. He was an advocate of the Homestead bill, voted for the repeal of the Fugitive-Slave Law, and opposed the Nebraska-Kansas bill of 1854. During the Civil War he was prominent in public affairs. In the session of 1861–1862 he was appointed chairman of the Joint Committee on the Conduct of the War. He also served as president of the Senate and acting Vice-President of the United States.

Excepting to serve as a commissioner to Santo Domingo, he took no prominent part in public affairs after 1869. He died in Jefferson, O., Mar. 2, 1878.

Wade, James F., an American military officer; born in Ohio, April 14, 1843; entered the Union army as 1st lieutenant in the cavalry in 1861; served with distinction throughout the Civil War; was brevetted colonel and Brigadier-General of volunteers in 1865; commissioned major of the 9th Cavalry, U. S. A., in 1866; promoted colonel in 1891, and Brigadier-General in 1897; and in May, 1898, was appointed a Major-General of volunteers. After the war with Spain, in which he took an active part, he was placed at the head of the American Cuban Evacuation Commission; in January, 1899, became military governor of Cuba; and subsequently was appointed commander of the Military Department of Dakota.

Wadleigh, George Henry, an American naval officer; born in New Hampshire, Sept. 28, 1842; was graduated at the United States Naval Academy in 1863, and assigned to duty in the West Gulf Blockading squadron, where he remained till the end of the Civil War. During the Spanish-American War he was in command of the flagship "Philadelphia" on the Pacific station and was afterward assigned to the command of the receiving ship "Wabash" at the navy yard at Boston.

Wadlin, Horace Greeley, an American statistician; born in Wakefield, Mass., Oct. 2, 1851. He became special agent for the Massachusetts Bureau of Statistics of Labor, and in 1888 was made its chief. He held a seat in the Massachusetts Legislature in 1884-1888; was supervisor of the United States census in 1890 and 1900, and of the State census in 1895.

Wadsworth, James Samuel, an American military officer; born in Geneseo, N. Y., Oct. 30, 1807; was educated at Harvard and Yale; studied law with Daniel Webster, and was admitted to the bar in 1833. He enlisted as a volunteer in the Union army early in 1861; was appointed a Brigadier-General in August; and became military governor of the District of Columbia in March, 1862. He was engaged in the battles of Fredericksburg, Chancellorsville, Gettysburg, and the Wilderness as the commander of a division, and was killed in the last named battle, May 6, 1864.

Wafer, a name given to the small piece of unleavened bread used in the sacrifice of the Mass, and called after consecration the Host.

Wafers, thin disks of adhesive matter, formerly much used for securing letters, and still in use for attaching papers to each other, for legal seals, etc.

Wager, in law, a promise to give money or money's worth on the happening of an uncertain event. Every contract of insurance is in the nature of a wager, but such contracts are permitted, because they serve useful purposes. In the United States gaming contracts are in most States void, and money paid or property delivered on such considerations may generally be recovered.

Wages, the payment for work done or services performed; the price paid for labor; the return made or compensation paid to those employed to perform any kind of labor or service by their employers; hire, pay, recompense, meed. The rate of wages is determined by the ratio which the capital, for the productive use of which labor is sought, bears to the number of laborers seeking that kind of employment. When the capital increases more rapidly than the laboring population of the country wages rise; when it increases more slowly they fall. But in the United States and most countries, the rise of wages produces an increase in the number of marriages, and in due time of population, with the result of ultimately causing wages to again fall. This is the theory of the wage system, and carried to its logical extreme, it has reduced multitudes of wage-earners in China, Russia, and other countries to a condition but little removed from slavery. The trades unions have changed all this, however, in the United States and Great Britain, and other countries where a man is really a man, and wages are now fixed, as a rule, in the countries indicated, by the unions, through amicable arrangement with employers.

Wagnalls, Mabel, an American pianist and author; born in Kansas

City, Mo., April 20, 1871. She made her first appearance in New York city, Jan. 11, 1891, with the Theodore Thomas orchestra, and in the following year played with Anton Seidl's orchestra. She was the author of "Miserere: A Musical Story," "Stars of the Opera," etc.

Wagner, Arthur Lockwood, an American military officer; born in Ottawa, Ill., March 16, 1853; was graduated at the United States Military Academy in 1875; was promoted lieutenant-colonel in 1896; and in 1897 was placed in charge of the military information division of the War Department at Washington. In the Spanish-American War he served in Cuba, and afterward commanded at Southern Luzon, Philippines. He died in 1905, as he was about to be made a Brigadier-General.

Wagner, Charles, French evangelist and author; born Alsace, 1852. Inculcating simple Christianity divested of dogmatism, as author of "The Simple Life," "Youth," "Courage," etc., he achieved wide popularity. He lectured in the U. S. in 1904.

Wagner, Wilhelm Richard, a German operatic composer; born in Leipsic, May 22, 1813. In 1836 he was conductor at Magdeburg, and after spending some time in Konigsberg, Dresden, and Riga, successively, he went to Paris in 1841. Here he composed or completed his "Rienzi" and "Der fliegende Hollander," (Flying Dutchman). "Rienzi" obtained for him the post of assistant conductor (with Reissiger) at Dresden. His "Tannhauser" appeared in 1845. He spent the season of 1855 in London as conductor of the Philharmonic Society's concerts. In all his operas the words of the libretto are of his own composition, and far superior, from the poetic standpoint, to the majority of works intended for such use. Wagner was a musical revolutionist and reformer in many ways affecting the opera. Like other reformers and iconoclasts in other spheres and times, his methods and theories will doubtless be modified by the future. Meantime he may safely be ranked as the greatest musician who has arisen since Beethoven, and his probable influence on future operatic compositions can scarcely be overestimated. The following is a list of dates of first performances of his remaining dramatic works: "Lohengrin," (1850); "Tristan and Isolde," 1865; "Meistersinger," 1868; "Das Rheingold," 1868; "Die Walkure," 1870; "Siegfried," 1876; "Die Gotterdammerung," (The Dusk of the Gods), 1876; "Parsifal," 1882. Died in Venice, Feb. 13, 1883.

Wagtail, a name of birds included in the family of the warblers, and so termed from their habit of jerking their long tails when running or perching. They inhabit meadow lands and pastures, frequent water pools and streams, are agile runners, and have a rapid flight. The food consists of insects. Their nests, built on the ground, contain from four to six eggs. These birds belong to both Old and New Worlds, and migrate S. in winter.

Wahabi, or Wahabee, in the plural in Mohammedanism, a sect founded by Abdul Wahhab, born toward the end of the 17th century, near Der'aiyeh, the capital of Nejd, in Arabia. Abdul Wahhab felt it a duty to make a determined effort to restore Mohammedanism to its pristine purity, and the most earnest Moslems gradually became his followers. Converting to his views Mohammed Ibn Saud, the powerful Sheikh of Der-'aiyeh, whose daughter he married, he induced his father-in-law to draw his sword for the establishment of a pure Mohammedan theocracy.

The Bedouins flocked to his standard; the towns of Arabia, less inclined to adopt the new faith, had to be conquered. In A. D. 1765 (1172 of the Hegira) the father-in-law died, and on June 14, 1787 (A. H. 1206), the revivalist or reformer. Under their successors, with the exception of the territory subject to the Imam of Muscat, all Arabia submitted to the Wahabees. The same year Mehemet Ali, Pasha of Egypt, prepared to attack them. In 1812 he took Medina, and in 1813 Mecca. In 1816 Ibrahim Pasha, the son of Mehemet Ali, assumed the command of the Egyptian troops and entering Arabia, took Der-'aiyeh in 1818, and capturing Abdullah, son and successor of Saud, sent him to Constantinople, where he was beheaded. The Wahabee movement is not now confined to Arabia; it has spread throughout the Mohammedan

world, and though quiescent at present, still possesses vigorous life, and will doubtless again from time to time break forth. Many adherents of the sect are believed to exist in India, Patna being considered one of their strongholds.

Wahoo, an ornamental shrub, often called burning bush or spindle tree. The name is also given to the winged elm, a small tree of the S. and W. parts of the United States, the hard and close-grained wood of which is used for the hubs of wheels, etc.

Wainwright, Jonathan Mayhew, an American clergyman; born of American parents in Liverpool, England, Feb. 24, 1793; was graduated at Harvard College in 1812; studied theology and was ordained in the Protestant Episcopal Church in 1818; settled in New York city in 1819; and was there rector of Grace Church in 1821–1834. Three years later he was made assistant in charge of St. John's Chapel, and remained there till November, 1852, when he was consecrated provisional bishop of New York. He was one of the founders of the University of New York, and was deemed one of the most eloquent pulpit orators of his time. He died in New York city, Sept. 21, 1854.

Wainwright, Richard, an American naval officer; born in Washington, D. C., Dec. 17, 1849; was graduated at the United States Naval Academy in 1868; promoted commander in 1889; served on various stations and duties and was the executive officer on the battleship "Maine" when she was blown up in Havana harbor in 1898. He commanded the converted yacht "Gloucester" in the war with Spain; took part in the destruction of Cervera's squadron, July 3, 1898; destroyed the Spanish torpedo boats "Furor" and "Pluton" during the fight; in 1900 became superintendent of the United States Naval Academy; in 1908, a rear-admiral.

Waite, Charles Burlingame, an American author; born in Wayne co., N. Y., Jan. 29, 1824; was admitted to the bar in 1847; settled in Chicago and practised there till 1862; was associate justice of the Supreme Court of Utah in 1862–1865 and district attorney for Idaho in 1865–1866. He then returned to Chicago and engaged in literary work. Died 1909.

Waite, Morrison Remick, an American jurist; born in Lyme, Conn., Nov. 29, 1816; was graduated at Yale University in 1837; studied law and practised in Ohio; member of the Ohio legislature 1849–1850; in 1871 was appointed one of the attorneys to represent the United States before the tribunal of arbitration at Geneva; nominated by President Grant to be chief justice of the United States Supreme Court in 1874, and was unanimously confirmed by the Senate. He died in Washington, D. C., March 23, 1888.

Wake Forest College, an educational institution in Wake Forest, N. C.; founded in 1833 under the auspices of the Baptist Church.

Wakeman, Antoinette Van Hoesin, an American journalist; born in Cortland co., N. Y., Dec. 4, 1854; was educated at the Woman's College, Evanston, Ill.; was a correspondent and writer for the St. Paul "Pioneer Press," the Minneapolis "Journal" and the Chicago "Times" and "Tribune"; served for four years on the editorial staff of the Chicago "Evening Post." During the World's Columbian Exposition she was chairman of the committee on program for the Woman's Press Auxiliary Congress.

Wakemanites, a small party of fanatics existing at New Haven, Conn., in 1855, who regarded an old and apparently insane woman, named Rhoda Wakeman, as a divinely commissioned prophetess, who had been raised from the dead. At her bidding, some of her followers murdered a farmer, Justus Matthews, who, she said, was possessed by an evil spirit. The unfortunate man willingly submitted to the sentence pronounced by the pseudo-prophetess, but the extinction of the sect followed as a matter of course.

Walcott, Charles Doolittle, an American scientist; born in New York city, March 31, 1850; early devoted himself to geological research; became assistant geologist in the United States Geological Survey in 1879; presented the results of his Cambrian researches before the International Geological Congress in London in 1888; director

of the United States Geological Survey in 1894–1907; honorary curator of the Department of Palæontology from 1892: acting Assistant Secretary of the Smithsonian Institution in 1897–1898, and Secretary from 1907; Secretary of the Carnegie Institution in 1902–1905; and president of the Washington Academy of Sciences from 1899; author of numerous books, reports, papers, etc.

Waldeck-Rousseau, Pierre Marie Ernest, a French statesman; born at Nantes, in 1846. He became a barrister; was elected deputy for Rennes in 1879; and in 1881, Gambetta, who recognized his ability, made him Minister of the Interior, an office which he again held under Jules Ferry, 1883-5. He was elected Senator for the Department of the Loire in 1894, and in 1895 was a candidate in opposition to Messieurs Faure and Brisson for the Presidency of France. He became Premier in 1899, and with a composite cabinet, while establishing order among the various opposing factions in the Republic, maintained the longest tenure of the Premiership since the establishment of the Third Republic, resigning in June, 1902. He died Aug. 10, 1904.

Walden, Treadwell, an American clergyman; born in Walden, N. Y., April 25, 1830; received a collegiate education and was graduated at the General Theological Seminary in 1853; was ordained in the Protestant Episcopal Church in 1856; held pastorates in New Jersey, Pennsylvania, Indiana, Massachusetts, and Minnesota. Made a member of the United States Sanitary Commission (1864).

Waldenses, a famous Christian community which originally grew out of an antisacerdotal movement originated by Peter Waldo, of Lyons, France, in the second half of the 12th century. The tenets ascribed to his followers in the earliest accounts are chiefly that oaths even in a court of justice are not allowable, that homicide is under no circumstances justifiable, that every lie is a mortal sin, that all believers are capable of priestly functions, and that the sacraments are invalidated by uncleanness of life in the officiating priest. Episcopal and Papal fulminations were launched against them, but it was impossible to compel silence, for the missionary zeal of these sincere enthusiasts was boundless, and their influence quickly grew. Alonzo II. of Aragon ordered them to quit his dominions in 1194, and in Southern France they became involved in the common destruction of the Albigenses, though their quarrel with the Church differed from that of the latter in relating to matters of practice rather than of doctrine.

But under persecution their divergences from the Church naturally grew ever the greater, and we find that gradually, though never uniformly, they came to repudiate the invocation of the Virgin and saints, transubstantiation, and purgatory with all its consequences. Yet they themselves maintained a kind of order of preachers living in voluntary poverty and celibacy. During the years 1336–1346 especially they were severely harassed; 12 were burned in front of the cathedral at Embrun in 1348. Popes Clement VI. and Urban V. stimulated the zeal of the Inquisition, and we read how the fierce Inquisitor, Francois Borel, burned 150 at Grenoble in one day in 1393. Their remnants in France continued to cherish their own faith, more or less under disguise of Catholicism, till they finally merged with the Calvinists after the Reformation.

The 18th century was not a favorable age for persecution, yet even at its close the Waldenses could hold no office nor real estate, nor have physicians of their own faith in Italy. Napoleon allowed their Church a constitution, but this Victor Emmanuel abolished in 1814, though two years later, urged by England and Prussia, he issued a milder edict. Meantime they prospered — Col. John C. Beckwith (1789–1862), who had lost a leg at Waterloo, having perused Dr. Gilly's "Visit to the Valleys of Piedmont" (1823), settled among the people for the last 35 years of his life, marrying a peasant girl, and succeeded in establishing as many as 120 schools. At last in 1848 Charles Albert gave the Waldenses equal political and religious rights, and since that time their progress has been constant if not rapid. In 1889–1890 they had in Italy 44 churches, and 53 stations, 58 pastors and evangelists, and a theological school at Florence.

Walden University, a coeducational institution in Nashville, Tenn.; founded in 1867 under the auspices of the Methodist Episcopal Church.

Waldersee, Alfred Heinrich Carl Ludwig, Count von, a German military officer; born in Potsdam, Germany, April 8, 1832; entered the army in 1850; served with distinction in the campaign of 1860 and in the Franco-Prussian War; became Major-General in 1876, general in 1880, quartermaster-general in 1881, Lieutenant-General in 1882, general of cavalry in 1888; and succeeded Von Moltke as chief of the general staff of the German army in August, 1888. In 1895 he was promoted Field-Marshal, and in 1900 was chosen commander of the allied armies in China. His wife, Mary, born in New York city, Oct. 3, 1837, was a daughter of David Lee, spent her early years in Paris with her sister Josephine, and there married Prince Frederic of Schleswig-Holstein-Sonderburg-Augustenburg-Noer, 1864. On the death of her husband in July, 1865, she returned to Paris, where she remained till 1870, when she removed to Wurtemberg, Germany. In 1871 she married Count von Waldersee. She was credited with having brought about the marriage of Emperor William II. with the Princess Augusta Victoria. Count von Waldersee died Mar. 6, 1904.

Waldo, Frank, an American meteorologist; born in Cincinnati, O., Nov. 4, 1857; was graduated at Marietta College in 1878 and pursued post-graduate studies at Harvard University in 1880–1882 and then spent a year in Europe. Returning to the United States he was instructor of astronomy at Radcliffe College and later of meteorology at the Corcoran School of Science, Columbian University. He then became a junior professor in the United States Signal Service.

Waldstein, Charles, an American educator; born in New York city, March 30, 1856; was educated at Columbia University, and graduated at the University of Heidelberg in 1875; was made Professor of Fine Arts at King's College, Cambridge, England, in 1893; served as director of the American School of Classical Studies in Athens in 1889–1895; and was professor there in 1895–1897. He had charge of the excavations of the American Archæological Institute at Eretria, Platæa, Heraion of Argos, etc.

Wales, a principality in the S. W. of the island of Great Britain, which since Edward I. gives the title of Prince of Wales to the heir-apparent of the British crown; area, 7,442 square miles; pop. included in that of England. It is divided into 12 counties. As a whole it is very mountainous, particularly in the N., where Snowdon, the culminating point of South Britain, rises to the height of 3,571 feet; and it is intersected by beautiful valleys, traversed by numerous streams, including among others the large river Severn. It is rich in minerals, particularly coal, iron, copper, and even gold, and to these Wales owes its chief wealth. The coal trade is most extensive, and Cardiff is the largest coal port in the world. In 1898 about 24,000,000 tons of coal were produced in Wales. Iron, steel, and copper works are also on a large scale. Besides the mineral industries, there are considerable woolen manufactures, especially of flannel, coarse cloth, and hosiery. The Welsh have many strange customs and peculiar superstitions. They are remarkably fond of poetry and music, and their language is said to be peculiarly adapted to poetical effusions. Their ancient language is, however, falling fast into disuse throughout the principality, more especially the S. part. Family distinction is held in great estimation. The aboriginal Celtic race still inhabits some parts of the country. Llewellyn ap Gryffydd was the last prince who exerted himself for the independence of Wales. In 1282 he was subdued by Edward I., and fell on the field of battle. From that time, Wales has been annexed to the English crown; but the union was not complete till the reign of Henry VIII., when the government and laws were assimilated with those of England.

Wales, Prince of, the principal title of the eldest son, or, in the event of his death, the grandson, of the reigning sovereign of England, but not necessarily of the heir-apparent to the crown, *e. g.*, James I., William IV., or Ernst August of Hanover. The last native who held it was Llewellyn ap Gruffyd (1246–1282)

two years after whose death it was conferred, so runs the tradition, by Edward I. on his second son, in fulfilment of his promise to the Welsh chieftains that he would give them a prince born in their midst and unable to speak a word of English. Presenting to them the infant Edward of Caernarvon, he pronounced the words *Eich Dyn* ("This is your man"), the origin of the motto *Ich dien*, which another tradition refers with equal probability to the German motto *Ich diene* ("I serve") of King John of Bohemia, slain by the Black Prince at Cressy (1346). To the Princedom of Wales are annexed, in England, the Duchy of Cornwall and Earldom of Chester; in Scotland, the Duchy of Rothesay, Earldom of Carrick, Barony of Renfrew, and Lordship of the Isles, with the titles of Prince and High Steward of Scotland; and in Ireland, the Earldom of Dublin. The Prince of Wales in 1911 was Edward Albert, son of King George V. and Queen Victoria Mary; born June 28, 1894; early entered the royal navy as a cadet; became Duke of Cornwall on the accession of his father; and was created Prince of Wales and Earl of Chester, June 22, 1910. He became very popular in early youth.

Walke, Henry, an American naval officer; born near Portsmouth, Va., Dec. 24, 1808; was appointed to the navy in February, 1827; and took part in the Mexican War. Immediately prior to the outbreak of the Civil War in 1861, he took measures which prevented the occupation of Fort Pickens by the Confederates. He served with distinction throughout the war; participated in the battle of Fort Henry, for which he received the thanks of the Secretary of War, of Congress, and of the State of Ohio; opened the battle of Fort Donelson and was the last to retire from the front line of battle; took part in the bombardment of Island No. 10, when he voluntarily ran the gauntlet of the Confederate batteries and captured the batteries below the island; and commanded the second division of the fleet at the battle of Grand Gulf, silencing the main fort on Point of Rocks. On April 26, 1881, he was retired at his own request to hasten the promotion of junior officers. He died in Brooklyn, N. Y., March 8, 1896.

Walker, Alexander Joseph, an American editor; born in Fredericksburg, Va., Oct. 13, 1819. He successively edited the New Orleans "Delta," "Times," "Jeffersonian," "Herald," and "Picayune," and subsequently the Cincinnati "Enquirer." He died in Fort Scott, Ark., Jan. 24, 1893.

Walker, Amasa, an American political economist; born in Woodstock, Conn., May 4, 1799. He was for many years engaged in commercial pursuits; from 1842 to 1848 lectured on political economy at Oberlin College. In 1862–1863 was Republican member of Congress from Massachusetts. From 1858 to 1869 he was lecturer on political economy at Amherst College. He wrote: "Nature and Uses of Money and Mixed Currency," and "The Science of Wealth." He died in North Brookfield, Mass., Oct. 29, 1875.

Walker, Asa, an American naval officer; born in Portsmouth, N. H., Nov. 13, 1845; was graduated at the United States Naval Academy in 1866; was promoted commander in 1894; was assigned to the command of the "Concord" in 1897, and with her engaged in the battle of Manila Bay, May 1, 1898. Promoted captain in 1899, he was on duty at the Naval War College, Newport, R. I., till 1900, when he became a member of the Naval Examining Board at Washington, D. C.

Walker, Francis Amasa, an American educator; born in Boston, Mass., July 2, 1840; was graduated at Amherst College in 1860; served throughout the Civil War, distinguishing himself on various fields. On Aug. 25, 1864, he was captured at Ream's Station, and for a short time was detained in Libby Prison; was promoted colonel Dec. 23, 1862, and received the brevet of Brigadier-General of volunteers March 13, 1865; was superintendent of the 9th census in 1870–1879; became Professor of Political Economy in the Sheffield Scientific School of Yale University in 1873; and in the latter year accepted the presidency of the Massachusetts Institute of Technology, where he served till his death, Jan. 5, 1897. He was the author of "The Indian Question" "Money," "Money, Trade, and Industry,"

" Political Economy," " History of the Second Army Corps," etc. Died 1897.

Walker, James, an American educator; born in Burlington, Mass., Aug. 16, 1794. He became Professor of Moral and Intellectual Philosophy in Harvard College in 1839; was president in 1853–1860; and editor of the " Christian Examiner " in 1831–1839. He was famous as a pulpit orator. There is a mural monument dedicated to him in the Harvard Church in Charlestown, Mass. He died in Cambridge, Mass., Dec. 23, 1874.

Walker, James, an American artist; born in England, June 3, 1819; settled in New York city early in life and lived there till 1884, when he went to San Francisco to execute a French battle piece for a private gallery. He became widely known as a painter of historico-military pictures. Died in Watsonville, Cal., in September, 1889.

Walker, John Grimes, an American naval officer; born in Hillsboro, N. H., March 20, 1835; was graduated at the United States Naval Academy in 1856. During the Civil War he participated in the capture of New Orleans and the operations against Vicksburg in the summer of 1862; was executive officer on board a gunboat at the capture of Wilmington, N. C., and took an active part in several other engagements. He was secretary of the Lighthouse Board in 1873–1878; chief of the Bureau of Navigation in 1881–1889; promoted commodore in 1889; commanded the " Squadron of Evolution " in 1889–1894; and in the latter year, on his promotion to rear-admiral, was assigned to the Pacific station; being particularly charged with the maintenance of peace and good order in the Hawaiian Islands. He was chairman of the Lighthouse Board in 1895–1896; and was appointed president of the Isthmian Canal Commission in 1899. He died in 1907

Walker, Robert John, an American financier; born in Northumberland, Pa., July 23, 1801; was graduated at the University of Pennsylvania in 1819. He entered politics and was elected to the United States Senate from Mississippi in 1836 and 1840. On the accession of James K. Polk to the presidency in 1845, he was appointed Secretary of the Treasury, and continued in that office till March, 1849, during which period he prepared and carried through the tariff bill of 1846, various loan bills, the warehousing system, the Mexican tariff, and a bill to organize the Department of the Interior. Subsequently he was governor of Kansas, was actively occupied in the support of the National government prior to the Civil War, advocating the immediate reënforcement of Southern fortifications and the maintenance of the Union by force; and in 1863 was sent as financial agent of the United States to Europe, where he negotiated the sale of $250,000,000 in 5-20 bonds. He died in Washington, D. C., March 11, 1869.

Walker, Sears Cook, an American astronomer; born in Wilmington, Mass., March 28, 1805; was graduated at Harvard College in 1825. From 1847 till his death he had charge of the longitude computations of the United States Coast Survey, and in this connection he developed with Professor Bache the method of determining differences of longitude by telegraph, which was first put into successful operation in 1849. He died in Cincinnati, O., Jan. 30, 1853.

Walker, William, a noted American filibuster, born at Nashville, Tennessee, 1824; was editor of the San Francisco Herald; led a revolutionary expedition to Central America, and was for some time successful in establishing a military despotism in Nicaragua, until driven out. After an attempt to invade Honduras, he surrendered to a British naval captain, who gave him up; he was shot by order of court martial Sept. 22, 1860.

Walker, Williston, an American clergyman; born in Portland, Me., July 1, 1860; was graduated at Amherst College in 1883 and at Harvard Theological Seminary in 1886; was Professor of Church History in Hartford Theological Seminary in 1889–1901.

Walking Delegate, a peripatetic official of a trade union, whose duty it is to visit the various places at which members of his craft are employed, and personally ascertain that no laws of that particular trade guild are infracted by the workmen; also, in cases where an unexpected strike has been ordered by the executive board, it devolves on him to notify

men connected with the union to cease work at the place indicated.

Wallace, Alfred Russel, an English naturalist; born in Usk, Monmouthshire, England, Jan. 8, 1823; was educated at Hertford grammar school. He spent many years in traveling, especially in South America and the Asiatic Islands. His observation of animal life early led him on the track of natural selection, and before Darwin gave his famous work to the world he had published "Speculations on the Origin of Species." Wallace differed from Darwin on the subject of the intellectual, moral, and spiritual nature of man, and claimed to be at once a Darwinian and an anti-materialist. He was president of the Land Nationalization Society and a member of various scientific bodies. The Royal Society of London awarded him the royal medal in 1868, and the Geographical Society of Paris the gold medal in 1870. He wrote many scientific and popular books and papers.

Wallace, Lewis (better known as Lew), an American military officer and author; born in Brookville, Ind., April 10, 1827; was lieutenant in the Mexican War in 1846–1847; took a distinguished part in the Civil War in which he served in the campaigns in West Virginia and Kentucky; commanded a division at the capture of Fort Donelson; led the attack in the second day's fight in the battle of Shiloh; took part in the subsequent advance on Corinth; saved Cincinnati, O., from capture by Gen. E. Kirby Smith; and was president of the court appointed to investigate the conduct of General Buell. In 1864 he commanded the Middle Department and the 8th Army Corps, and in the battle of Monocacy (July 9, 1864), prevented the capture of Washington and Baltimore by General Early. He was a member of the commission which tried the assassins of President Lincoln, and in the same year presided over the court which tried Captain Wirz, the commandant of the Andersonville prison. In 1866 he was sent to Mexico on a secret diplomatic mission to President Juarez; was appointed governor of New Mexico in 1880; and was United States Minister to Turkey in 1881–1885. When not engaged in public service he practised law and devoted himself to literature. His publications include: "The Fair God"; "Ben Hur, a Tale of the Christ"; "The Prince of India," etc. He died at Crawfordsville, Ind., Feb. 15, 1905.

Wallace, Sir Richard, an English philanthropist; born in London, England, July 26, 1818; removed to Paris; and became heir to the large fortune of the Marquis of Hertford, including a very valuable collection of paintings and other objects of art, to which he made large additions and which his widow bequeathed in 1897 to the nation. It is valued at $25,000,000 and is permanently on exhibition in Hertford House (the original of Gaunt House in "Vanity Fair"). Sir Richard was well known for his extensive benefactions, especially during the period of the Paris Commune, and these services were recognized in 1871 by his elevation to a baronetcy and his appointment as a commander of the Legion of Honor. In 1873 he was elected to Parliament. He died in Paris, July 20, 1890.

Wallace, Susan Arnold Elston, an American author; wife of Gen. Lewis Wallace; born in Crawfordsville, Ind., Dec. 25, 1830; was married to Gen. Wallace in 1852. Besides contributing to periodicals and reviews, she published: "The Storied Sea," "The Land of the Pueblos," "The Repose in Egypt," etc. D. 1907.

Wallace, Sir William, a Scotch patriot; born in Ayrshire, Scotland, about 1274. Having slain the son, and several of the retainers of the English sheriff of Dundee, for an insult offered to him, Wallace fled to the woods, and was outlawed. Gathering together a number of followers, he drove the English out of Aberdeen, Forfar, Brechin, and elsewhere, and in 1297 defeated the English army at the battle of Stirlingbridge — thus liberating his country for a time. He was chosen one of the commanders-in-chief of the Scotch army, and afterward guardian of the kingdom, during the captivity of Baliol. He penetrated into England, and ravaged Durham with fire and sword. Edward I., then in Flanders, immediately hastened home, and marched against Wallace, who was defeated. He carried on a guerilla warfare against the English during several

years, was betrayed, and executed in London, Aug. 24, 1305.

Wallace, William Ross, an American lawyer and poet; born in Lexington, Ky., in 1819. "The Liberty Bell" is his best-known poem. Died in New York city, May 5, 1881.

Wallack, James William, an American actor; born in London, England, Aug. 24, 1795. He came to the United States in 1818, and on Sept. 7 made his first appearance in New York city in the Park theater as Macbeth. He became stage manager of the Drury Lane theater in 1820; opened the National theater in New York city and managed it till it was destroyed by fire in 1839; opened Wallack's Lyceum in 1852 and in 1861 built Wallack's theater in New York city. He died in New York city, Dec. 25, 1864.

Wallack, Lester John, an American actor and manager, son of James William Wallack; born in New York, Jan. 1, 1820. He conducted Wallack's Theater, New York city, for 24 years; was identified with the American stage for more than 40 years; and on his retirement in May, 1888, was the recipient of an unequalled dramatic testimonial. He wrote the plays "The Veteran" and "Rosedale." He died Sept. 6, 1888.

Walla Walla, city and capital of Walla Walla county, Wash.; on the Walla Walla river and branches of the Northern and Union Pacific railroads; 200 miles S. W. of Spokane; is the trade center of a large farming area and an important shipping point of grain; manufactures chiefly farm implements and machinery; and contains Whitman College (Cong.), Walla Walla College, De la Salle Institute, St. Vincent's Academy, St. Paul's Seminary (P. E.), St. Patrick's School, and the State Penitentiary, while adjoining the city is the military post of Fort Walla Walla. Pop. (1910) 19,304.

Wallenstein, Albrecht Wenzel Eusebius, Count von, the great general of the Imperialists, in the Thirty Years' War; born in 1583; alone and with Tilly more than once raised the empire from the verge of ruin by his counsel and skill as a commander. When Gustavus Adolphus of Sweden invaded the empire with his Protestant army, Wallenstein armed and equipped 50,000 men at his own cost, and, advancing against the successful enemy, drove Gustavus out of Bavaria, and following him into Saxony, forced him at Lutzen to hazard a pitched battle, in which, though the Imperialists were defeated, the death of Gustavus, who fell in the moment of victory, was considered an ample equivalent. The death of the Swedish king made the rest of the war easy, and by Wallenstein's vigilance the empire was again saved. Ferdinand, now firmly seated on his throne, became envious of the man to whom he owed both life and crown, and, taking offense at the devotion of Wallenstein's officers, accused their chief of treason, and issued an order to take him dead or alive. On this Wallenstein fled with a party of friends to the Castle of Egar, where its commander treacherously murdered him and all his devoted friends in 1634.

Wallflower, the common name of a species of plants. They are biennial or perennial herbs or undershrubs. Many of them exhale a delicious odor, and are great favorites in gardens. The best known is the common wallflower, which, in its wild state, grows on old walls and stony places. In the cultivated plants the flowers are of more varied and brilliant colors, and attain a much larger size than in the wild plant, the flowers of which are always yellow.

Wallis, Sir Provo William Parry, a British naval officer; born in Halifax, Nova Scotia, April 12, 1791. He served in the British navy against the French, and in 1813 was 2d lieutenant on the "Shannon" which captured the United States frigate "Chesapeake" off Boston, on June 1, in the engagement in which Capt. James Lawrence was killed. The captain of the "Shannon" being severely wounded and the 1st lieutenant killed, Wallis took command and carried the "Chesapeake" to Halifax. For his part in the encounter he was promoted commander. He became rear-admiral in 1851, vice-admiral in 1857, admiral of the White in 1863, and admiral of the fleet in 1877. By special order of Queen Victoria, he was retained in the service after passing the age of retire-

ment, 70 years. He died near Chichester, England, Feb. 13, 1892.

Walloons, or Wallons, lineal descendants of the old Gallic Belgæ, who occupy the Belgian provinces of Hainault, Liege, Namur, and part of Southern Brabant and Western Luxembourg. They are superior in physique to their Flemish compatriots, and a large proportion of them have black hair and eyes. Their language, also called Walloon, is a French patois retaining numerous Gallic words.

Wall Paper, for ordinary purposes consists of a tough, but not a thick paper, printed with a pattern in size colors. For expensive wall papers a rather stout paper is used, and for very cheap kinds a paper of such poor quality that it can only be pasted on walls without tearing by great care. From the artist's room where the designs are evolved to the shipping department, where they are dispatched, finished in compact bundles, on their several journeys, the process of production is full of interest. The first stage is the designing in water-colors by the artist of the pattern which is to be reproduced. Then, as in chromolithography, the pattern is traced, and an estimate made of the number of colors that are to be used in the sketch. Say there are five, then five seasoned cedar rollers are prepared to receive the five portions of the sketch which contribute the five colors. The process by which these different portions of the sketch are placed upon the rollers is immensely curious. The designs stand from the surface of the rollers in high relief, and consist principally of thin hammered brass and felt. Where solid blocks of color are required that portion of the design is outlined with thin strips of brass which can be bent in any shape, these being pounded into the rollers with a tiny hammer and the spaces between the lines are filled in solid with strips of soft felt. When these surfaces are rolled with paint they print on the paper solid designs which perhaps represent the petals of a flower or the green of a leaf, etc. The first prints of color in the sketch are the body colors. Next in order come the shadings, the embellishments, dots of gilding, etc., each of these being defined on a separate roller. The work of outlining these designs is exceedingly difficult and laborious, the workman following the portions of the design which are traced on the rollers beforehand in order to be exact.

The work of outlining the designs on the rollers being completed, the first step is to print the background on the plain paper. The paper unwinds from large rolls weighing half a ton apiece, slowly passing under the moving machinery, up over rollers which carry it along to the brushes, which move rapidly back and forth across the paper as the latter passes along under them, and it emerges coated evenly with the required tint. This paint, by the way, is all mixed with water. Oil paint is not used at all; and the paint dries several shades lighter than it is in the liquid state.

To go back to the paper which has just received its background; it passes from the brushes up over a bar, traveling away from the machine and stretching out in a long sweep to where a double endless chain extending nearly 200 feet, the entire length of the building, traveling on a sort of miniature elevated railway, moves perpetually around and around the little railway. In these chains are notches which run parallel to each other, and they catch up in their progress, as they pass the nearest point to the tinting machine, wooden rods which are placed in a rack close to the chains. These rods catch the paper at regular lengths, bearing it up on to the little railway from which it hangs in long loops, and the procession of loops hanging from the rods resting upon the notches in the endless chains, marches slowly down the long building, drying en route from the heat that emanates from a series of steam pipes which are laid along the floor under the railway. The heat grows more and more intense as the procession progresses, and by the time the journey is ended at the other end of the building all vestige of dampness has departed from the paper. The latter is rolled again as fast as it accumulates and deposited in compact bundles on the floor ready for the printing of the design.

The accomplishment of the latter process is done by means of a machine which prints several colors at once. This machine is circular in form, and has places for the adjustment of the

cedar rollers which contain upon their rounded surfaces the different portions of the design to be printed, which represent the different portions of color in the design. Suppose for instance a single design of a spray of wild roses with green leaves on a delicate blue background is to be printed. The background is washed by means of the process described. To print the design say five rollers are used. The first bears the primary pink of the roses and any other touches of pink that may occur in the design. The next color is perhaps the shading of the pink, the darker portions of the petals, the next the green of the leaves, the next the yellow of the stamens of the flowers, and so on, the more intricate the pattern, the more colors it takes to print it, the more work to impress the pattern in its different portions upon the cedar rollers, and the more expensive it is to reproduce. Many of the patterns have finishing dots or lines of gold which lend brilliancy to the effect. These are all defined in the same way on a separate roller. (See illustration, page 1783).

After the paper has received the whole of the design, winding around the big wheel and passing under each cedar roller, receiving tints, shading and embellishment, it sweeps out over the bar as described before, being caught up in long loops by the sliding rods which move on the endless chains, and the long procession of loops moves in order slowly down the building. At the other end of the little railway the wooden rods drop off from the chain into a big box and as they accumulate they are taken out and removed to the starting point, where they again set out on their slow journey across the building.

An automatic arrangement on the printing machine puts a little red mark on the paper at regular intervals of so many yards, the length of an ordinary roll of wall paper, and at the other end of the building is stationed a boy whose duty it is to roll the paper in the small rolls in which it is sold. As fast as the paper arrives from the drying journey it is wound around a small rod and at each red dot a sort of knife cuts off the paper, the roll is adjusted again and the work of winding proceeds.

Wall Street. The Wall street community is composed of the Stock, Produce, Cotton, Coffee, and Consolidated Exchanges; the United States Sub-Treasury, Assay Office, and custom house; the New York clearing house, a multitude of National and State banks, trust companies, private banking firms, import and export houses, dealers in commercial paper and promoters, representatives of railroad and industrial corporations and of vast private estates, the "Curb" market, and hundreds of corporation lawyers and others who have close relations with the securities markets. It is there that railroads and industrial corporations are organized, financed and reorganized if necessary; that stock and bond securities of all kinds find their level of value; that money can always be borrowed on good collaterals; that money is transferred from one side of the world to the other through the medium of foreign exchange bills; that gold exports or imports are arranged; that money seeks investment in government bonds and all other American and some foreign securities. And it is in Wall street that fortunes are won and lost in stock speculation. Considered as a whole, Wall street is a true barometer of the country's financial condition, reflecting unerringly depression or prosperity. It is always forging a bit ahead of the times "discounting" known or expected factors, and sometimes upset by unexpected occurrences. True to American temperament, the stock market, considered alone, at times reflects an extravagant wave of optimism or an unjustifiable condition of pessimism, but as the money market is always a most reasonable place, normal conditions usually prevail.

The most interesting of all Wall street's interests is the stock market. The Stock Exchange is an unincorporated, voluntary association, resembling in organization a club, and having a membership of 1,100. Memberships or seats fluctuate in value. A man to become a member must buy a seat and then pass an examination before the committee of admissions. If he fails of acceptance he must sell the membership. If he is accepted, he, or his friends who lent the money used in

buying the seat, must sign a paper releasing the membership from all claims. Should he become insolvent the membership is sold and the proceeds are divided among his Stock Exchange creditors. About 500 Stock Exchange firms, exclusive of individual brokers operating alone, transact the business of that institution.

There are 500 telephones on the floor of the Exchange, each in charge of a boy who receives orders from his office and transmits them to the floor broker for execution. In every broker's office there are from 1 to 10 telephones, and many brokers rarely see their clients, who telephone orders from up-town offices, homes, or out of town. In recent years there has been an enormous growth of what are known as "wire houses." There are New York, Chicago or Boston firms which lease private wires connecting with many of the leading cities. The object is to get the latest financial news as quickly as possible, and at any necessary expense, to agencies and customers everywhere. The private wire system of Wall street spreads out through the country like a gigantic web or fan. A private wire to Chicago costs $12,000 a year. About 25 private wires are leased by the American Telephone and Telegraph Company between Wall street and Chicago, and 50 between Boston and Wall street, and 30 between Wall street and Philadelphia. The Western Union and Postal-Telegraph Companies also lease many wires, but the copper wires of the telephone company are mostly used, as they are not so susceptible to break-downs during storms, and they can be readily transformed into long-distance telephones. Should there be any important news, and conversation is preferable to a written message, the brokers in a very few minutes can talk from Wall street to Chicago or Boston, over their private wires, and every afternoon there is a vast amount of business transacted by word of mouth between Wall street and the cities it taps with leased wires. Many of the long wires also connect with the intervening cities. Thus Buffalo, Cleveland, Toledo and other cities may be "on" a Chicago wire, and each pays a share for the service.

This is the most expensive part of a broker's business, for "wire" houses employ from 1 to 15 telegraph operators, the most expert being employed and usually receiving $25 each per week. Speed and accuracy are the important considerations. An order to buy or sell on the New York Stock Exchange can be sent from Chicago and executed in four minutes. From Chicago quotations are sent at short intervals over the public wires to San Francisco, Seattle and other far Western cities. The Consolidated Stock Exchange also includes a number of important financial houses, and is unsurpassed in the efficiency of its service, and promptitude and accuracy of its quotations.

The several Wall street news bureaus handle news more quickly than any newspaper and there is no place in the world where newspaper speed and accuracy have reached such perfection. Each news bureau has a staff of reporters, a telegraph and cable service, and each distributes the news printed on small sheets of paper, one using yellow and the other white slips. Messengers run with the slips to the brokers' offices. Each messenger has a route to serve and each tries to outstrip the other. The result is that long before the afternoon papers appear, the brokers have read all the financial news and bulletins of the general news of the day from the "slips." The slips begin to be delivered at the broker's office at about nine o'clock. Opening with a review of the market, the London quotations and general financial and other news follow in quick succession, till at three o'clock in unending procession, slips have been received to the number of 100, 200 or more. In order to provide even greater speed each bureau maintains a page printing electric ticker service. For $30 a month you get the news slips and a news ticker which prints the bulletins of the leading events before they can be delivered on the slips.

Some news bureaus publish daily papers which have a considerable circulation among dealers in stocks, and there are about a half-dozen other financial papers including the "Journal of Commerce," "New York Commercial," "Daily Stockholder" and

"Wall Street News." Each daily paper in New York city supports a Wall street staff of from two to six men. Wall street depends for its printed statistics on the "Financial Chronicle," "Wall Street Journal" and "Poor's Manual," three American institutions that occupy places in the machinery of the broker's office.

Wall street wheels would stop going round if all its messenger boys should ever go on strike. The total number must be from 5,000 to 10,000. They are the brightest and quickest messenger boys on the face of the earth. "Hurry" is in the Wall street atmosphere and they make haste with their work which calls for nimble wits and rapidity of physical action. The duties of the Wall street boys are manifold; they compare stock transactions, make bank deposits, certify checks, transfer and deliver stocks, carry important orders, and they must be able to locate instantly 1,500 different offices in the Wall street district.

Walnut, a genus comprising seven or eight species of beautiful trees. The common walnut is a native of Persia and the Himalayas, but has long been cultivated in all parts of the S. of Europe. The date of its introduction is unknown, but it was certainly cultivated by the Romans in the reign of Tiberius. It is a lofty tree of 60 to 90 feet, with large spreading branches. The leaves have two to four pairs of leaflets, and a terminal one. They have a fine balsamic odor when bruised; this quality, however, being much more marked in some trees than in others. An infusion of them has been found useful in scrofula; when bruised and rubbed on the skin they are efficacious in curing itch; and placed in wardrobes they prevent the ravages of moths. The sap is limpid like water, but contains much sugar, so that the tree is sometimes tapped for it, like the sugar maple, and the sugar is procured by evaporation; a pleasant kind of wine is also made from it. An excellent pickle and a kind of ketchup are made from the unripe fruit. The ripe fruit is one of the best of nuts, and is an important article of export from many parts of the S. of Europe. Walnuts are also exported in large quantities from Kashmir and other Himalayan regions to supply the markets of India. In the S. of Europe walnuts are a very considerable article of food, and when perfectly fresh they are wholesome and nutritious, though in the state in which they are imported into Great Britain they are not easily digestible. Just before they are ripe they are much used in France with vinegar, salt, pepper, and shallots. Among the varieties of walnut in cultivation is one with a very thin shell, which is much esteemed.

Walnuts yield by expression a bland fixed oil, which is much used by painters as a drying oil, and in the countries in which it is produced is a common article of food. The cake left after the expression of the oil is sometimes used as an article of food,

WALNUT.
a, nut; *b*, seed.

and is also used for feeding cattle and poultry. The timber of the walnut is of great value, and is much used by cabinet makers. It is light, though hard and fine-grained; and gun stocks are made of it. The wood of young trees is white, and little esteemed; that of old trees is brown, veined and shaded with darker brown and black. The wood of the roots is beautifully veined. Both the root and the husks of the walnut yield a dye which is

used for staining light colored woods brown. The walnut, when meant to become a timber tree, is best sown where it is to remain, as the roots are much injured by transplanting. The best kinds of walnut for fruit are generally grafted. North America produces the finest walnut, and it is to be regretted that Americans do not more generally appreciate the value of this noble tree, so much superior to the common walnut of Europe, which seems to have had its origin in France and Italy, and to have passed from those countries into more northerly regions. The black walnut of North America is found in most parts of the United States. It is a very large and beautiful tree, the trunk sometimes 6 or 7 feet in diameter; its leaves have more numerous leaflets than those of the common walnut. The timber is even more valuable than that of the common walnut. The butternut is abundant in the N. and N. W. States of North America, and in Canada. It is a tree only about 50 feet high, with trunk about a foot in diameter; leaves with 15 to 17 leaflets; the fruit elongated, and externally covered with a viscid substance. The nut is hard and rough, with prominent ridges, and of good quality. The wood is not apt to split or warp, and is useful for many purposes. Sugar is obtained from the sap, as from that of the maple but is of inferior quality.

Walpole, Horace, Earl of Orford, an English author, 3d son of Sir Robert W. Walpole; born in London, Oct. 5, 1717; was educated at Eton, and King's College, Cambridge. In 1741 he entered the House of Commons and sat for various constituencies up to 1768. He always took a lively but superficial interest in politics, inclining sentimentally to extreme opinions. In 1747 he purchased "Strawberry Hill," near London, where he erected a Gothic villa, laid out the grounds with minute ingenuity, and made it a principal business of his life to adorn and furnish it with objects of curiosity and antiquarian interest. His maintenance was provided for by some sinecure appointments. In 1757 he established a private printing press at "Strawberry Hill," at which he printed not only his own works but those of others. In 1791 he succeeded his nephew in the peerage. He never took his seat in the House of Lords, and appears to have avoided using his title. The works of Horace Walpole are numerous; but his fame as a writer rests on his "Letters" and "Memoirs." The former are held to be unsurpassed in the English language, and both are highly interesting and valuable as a storehouse of the more evanescent traits of contemporary history. His romance, "The Castle of Otranto," is also well known. He died in London, March 2, 1797.

Walpole, Sir Robert, Earl of Orford, an English statesman; younger son of Robert W. Walpole; born in Houghton, England, Aug. 26, 1676; was educated at Eton, and at King's College, Cambridge; succeeded to the paternal estate in 1700, and entered Parliament. In 1712 he was expelled from Parliament for breach of trust and corruption, and sent to the Tower, but was returned to his seat the following year. He was Secretary of War and leader in the House of Commons in 1708, paymaster of the forces in 1714 and 1720, and first lord of the treasury and chancellor of the exchequer in 1715, and again in 1721, and prime minister from 1715–1717 and from 1721–1742. During his long administration the Hanoverian succession, to which he was zealously attached, became firmly established, a result to which his prudence and political sagacity largely contributed. He relieved the weight of taxation by many improvements in the tariff. In 1724 he was made a Knight of the Bath, in 1726 a Knight of the Garter, and in 1742 was created Earl of Orford. An able monograph on Walpole has been published by John Morley. He died in Houghton, England, March 18, 1745.

Walrus, in zoölogy, called also the morse, seahorse, and sea cow. The walrus is now confined to the regions within the Arctic Circle, though its extinct ancestors had a much wider geographical range. It is a large carnivorous marine mammal, ordinarily from 10 to 12 feet long, with a girth of nearly as much; it is said that it sometimes attains a length of 20 feet; muzzle abruptly truncated, with long and remarkably strong, bristly, moustaches; small eyes; external ear want-

ing, though the orifice is distinctly visible; body large and sack-like, tapering toward the tail; hind limbs short, connected by a membrane which covers the tail, fore limbs strong and stumpy, all with five digits. The hide is of a tawny brown color, with difficulty penetrated by bullets, and has been likened to a tough flexible coat of mail. The upper canines are developed in adults of both sexes into immense tusks, each from 15 inches to two feet long and weighing 10 pounds and upward. The most important function of these tusks is digging shell fish, the favorite food of the walrus, out of the banks and mud of shoal water. They also raise the body out of water, by digging into ice floes, and they form terrible weapons of offense, as by a quick turn of the neck the animal can strike upward, downward, or side-

WALRUS.

ways with equal dexterity. They are said to be monogamous, and the female brings forth at nine months one calf, usually on the ice floes. In disposition they are quiet and inoffensive, unless attacked or during the love season, or if their young are in danger; when they become desperately aggressive, and furiously attack the hunters on the ice or in boats. The numbers of the walrus, owing to reckless slaughter by the sealers and whalers, are fast decreasing, and the few remaining seek unfrequented spots in high latitudes inaccessible to sealers.

Walsh, Henry Collins, an American journalist; born in Florence, Italy, Nov. 23, 1863; was graduated at the University of Georgetown, D. C.; engaged in newspaper work; has been on the editorial staff of various leading newspapers and has also done important literary work; traveled in the Arctic regions, Central America, Morocco, and other countries. During the Spanish-American War he was war correspondent for the New York "Herald," and later was placed on the Sunday staff of that paper. His publications include "By the Potomac, and Other Poems" (1899); "The Last Cruise of the Miranda, a Record of Arctic Adventure," etc.

Walsh, Robert, an American author; born in Baltimore, Md., in 1784. In 1837 he removed to Paris, where he was consul in 1845–1851. He wrote for "Dennie's Portfolio," and edited the "American Review of History and Politics," the first American quarterly (22 vols. 1827–1837); most of the articles were from his pen. Others of his publications are: "Correspondence Respecting Russia Between R. G. Harper and Robert Walsh, Jr." (1813); "An Essay on the Future State of Europe" (1813); biographical prefaces to an edition of the English poets in 50 small volumes; "An Appeal from the Judgments of Great Britain Respecting the United States of America" (1819). He conducted the "American Register" (1817–1818), the "National Gazette" (1821–1837), and the "Museum of Foreign Literature and Science" (vol. i. 1822); and edited "Didactics: Social, Literary, and Political," a collection of aphorisms (2 vols. 1836). He died in Paris, Feb. 7, 1859.

Walsh, William Shepard, an American journalist; born in Paris, Feb. 1, 1854, son of Robert. He was connected with J. B. Lippincott & Co. from 1876 and in 1886 became editor of "Lippincott's Magazine." He wrote many essays, also juveniles, and historical and scientific books for the young; and published a critical commentary, "Faust: The Legend and the Poem" (1887); "Paradoxes of a Philistine" (1888); and "Handy Book of Literary Curiosities" (1892).

Walter, Thomas Ustick, an American architect; born in Philadelphia, Pa., Sept. 4, 1804. In 1833 he made the designs for the Girard College building, which on its completion in 1847 was pronounced the finest

specimen of classic architecture in the United States. His next great work was the breakwater at Laguayra for the Venezuelan government. In 1851 his design for the extension of the National Capitol at Washington, D. C., was adopted. Having been appointed government architect, he removed to Washington, and remained there till the completion of the work in 1865. While in Washington he also designed the extensions of the patent office, treasury, and postoffice buildings, the dome of the Capitol, and the Government Hospital for the Insane. He died in Philadelphia, Pa., Oct. 30, 1887.

Walters, William Thompson, an American merchant and art virtuoso; born in Pennsylvania, May 23, 1820; was educated as an engineer; became identified with the coal and iron industry; was art commissioner from the United States at the Paris Expositions (1867–1878), at Vienna (1873), and trustee of the Corcoran Gallery at Washington, D. C. His private art gallery was the most extensive and valuable (especially in Oriental ceramics) in the United States. He died in Baltimore, Md., Nov. 22, 1894.

Walthall, Edward Cary, an American lawyer; born in Richmond, Va., April 4, 1831; became a Brigadier-General C. S. A., in 1862, and Major-General in 1864; distinguished himself during the battle of Missionary Ridge, where he led his brigade over a ridge and held back the National troops till the Confederate army made its escape; and covered the retreat of General Hood's army after the defeat at Nashville. He was in law practice in Grenada, Miss., in 1871–1885, and a United States Senator from 1885 till his death, April 21, 1898.

Waltham, a city in Middlesex county, Mass.; bisected by the Charles river and on the Boston & Maine railroad; 10 miles W. of Boston; contains the Leland House for Aged Women, Home for the Feeble-Minded, public library; is best known for its manufactures of watches and clocks. Pop. (1910) 27,834.

Walton, George, an American patriot; born in Frederick co., Va., in 1740. In 1776 he was one of the signers of the Declaration of Independence, and was a delegate to the Continental Congress from that year till October, 1781; was elected governor of Georgia in 1779 and 1789; was chief-justice of the State in 1783, 1787, and 1793; and United States Senator in 1795–1796. He died in Augusta, Ga., Feb. 2, 1804.

Walton, Izaak, an English author, known as the father of angling; born in Stafford, England, Aug. 9, 1593. Walton's fame is mainly based on his "Compleat Angler; or the Contemplative Man's Companion," which was first published in 1653 and appeared in a considerably modified form in 1655. Few more popular books exist, and the editions are consequently numerous. He died in Winchester, England, Dec. 15, 1683.

Waltz, a dance said to have originated in Bohemia, now of almost universal adoption. Also, the music composed for such a dance.

Walworth, Ellen Hardin, an American author; born in Jacksonville, Ill.; was founder of one of the three National Societies of the Daughters of the American Revolution in 1890; director-general of the Woman's National War Relief Association in 1898; one of the first three women elected to the School Board under the New York law; and founder and later president of the Post Parliament in New York. She is also a life member of the American Historical Association, a fellow of the American Geographical Society, and a member of the New York Genealogical and Biographical and the New York Historical Societies.

Wampum, the American Indian name for beads made of shells, formerly used as money, or as a medium of commerce. They were also united to form a broad belt, which was worn as an ornament, and was called wampumpaque, or wampeaque. The manufacture of wampum is carried on among the Germans living in the hills of Bergen co., N. J. The interior of a wampum workshop resembles a lime-kiln. The floors are hidden from sight by great heaps of shells, and the rude benches and tools are covered entirely with white-flying dust as the shells

are being ground and drilled, and suggests the application of innumerable coats of whitewash, which in fact it really is.

The wampum makers purchase a cartload of conch and clam shells for 25 cents, delivered at their doors, and when a shell of sufficient thickness is selected it is broken with hammer and chisel into cubes of about two inches in length and one-third of an inch square. This piece of shell is then securely wedged into a vise made of two pieces of wood, connected with a hinge in the center. The jaws of the vise are opened and the shells inserted. Then the vise is closed tightly and held by pressure against the grindstone. In this manner, in a short time, the edges of the shell are rounded, and then the drill is brought into use.

The workman sits at a three-legged table, the top of which is fashioned from the half of a log, the under side still retaining the original bark covering, and, affixing one end of the drill to play freely in a button on his jacket, he next takes up a whalebone bow, similar to the kind used by jewelers, and, giving the cord a turn about the spool on the drill, he works the bow rapidly back and forth, from right to left, till the sharp end of the drill penetrates through the cube of shell from end to end lengthwise. When a sufficient number of cubes are completed they are then smoothed and polished with emery paper and strung on wires, precisely the same as children string beads, and they are then ready for the market. The wampum that is made from the streaked, bluish parts of hard-clam shells is the most beautiful, and therefore more valuable, and is harder and tougher to work. The price paid for the products of this almost obsolete industry is 14 cents a running inch on the string, and the average amount of money made by these shell artisans is about $6 a day during the season.

Wanamaker, John, an American merchant; born in Philadelphia, Pa., July 11, 1838; began his career as an errand boy in a bookstore; was afterward employed as a retail clothing salesman; and in 1861 established with Nathan Brown, the clothing house of Wanamaker & Brown, in Philadelphia. In 1869 he founded a large department store in that city and subsequently converted the A. T. Stewart building on Broadway, New York, into a similar store. In 1889–1893 he was Postmaster-General. He is most active in religious work, and early founded the Bethany Presbyterian Sunday-school, in Philadelphia, which soon became one of the largest in the United States.

Wanderoo, or Wanderu, in zoology, the Macacus silenus, from the S. of Hindustan, especially the country bordering the Malabar coast. It is about 2 feet in length, tail 10 to 12 inches. The wanderoos have long, slim bodies, covered with black hair,

THE WANDEROO.

tail of the same color, tufted. The head looks very large because of a mane, or ruff, and beard which sticks out round the face. This mass of long hair is either gray or white, and adds to the sly look of the broad face, soft dull eyes, and broad muzzle.

Wapiti, the name given by the North American Indians to an animal, a native of North America, ranging from the Carolinas to lat. 56–57° N. It is closely allied to but considerably larger than the stag, standing about

54 inches at the shoulder; yellowish brown on upper parts; sides gray, long coarse hair in front of neck, like a dewlap; antlers large, brow-tine duplicated. It frequents low grounds, or woody tracts near savannahs or marshes. The venison is of little value, as it is coarse and dry; but the hide

THE WAPITI.

makes excellent leather. It is called also, but erroneously, the elk and gray moose.

War, a contest between nations and States (international war), or between parties in the same State (civil war), carried on by force of arms, and resorted to either for purposes of advantage or of revenge. Formerly, war was waged at the will of despotic monarchs; now wars usually arise, in the first instance, from disputes concerning territorial possessions and frontiers, unjust dealings with the citizens of one State by another, questions of race and sentiment, jealousy of military prestige, or mere lust of conquest. Civil wars arise from the claims of rival competitors for the supreme power in a State, or for the establishment of some important point connected with civil or religious liberty. In all cases, the object of each contending party is to destroy the power of the other by defeating or dispersing his army or navy, by the occupation of some important part of his country, such as the capital, or the principal administrative and commercial centers, or the ruin of his commerce, thus cutting off his sources of recuperation in men, money, and material. An international or public war can only be authorized by the sovereign power of the nations, and previous to the commencement of hostilities it is now usual for the State taking the initiative to issue a declaration of war, which usually takes the form of an explanatory manifesto addressed to the neutral States. An aggressive or offensive war is one carried into the territory of a hitherto friendly power; and a defensive war is one carried on to resist such aggression. Certain laws, usages, or rights of war are recognized by international law. By such laws it is allowable to seize and destroy the persons or property of armed enemies, to stop up all their channels of traffic or supply, and to appropriate everything in an enemy's country necessary for the support or subsistence of the invading army. On the other hand, though an enemy may lawfully be starved into a surrender, wounding, except in battle, mutilation, and all cruel and wanton devastation, are contrary to the usages of war, as are also the bombarding of a defenseless town, firing on a hospital, the use of poison in any way, or torture to extort information from an enemy.

War, Prisoners of, in general persons captured from the enemy during military or naval operations. In former times the entire people of a vanquished city, state, or nation became the absolute property of the victors; the men were either put to death or with the women and children became slaves. By later usage the combatants or fighting force are the ones commonly considered and treated as prisoners of war. The young, the sick, the aged; Sisters of Charity, physicians, nurses, and others regularly engaged in attending the sick and wounded; clergymen, representatives of the Red Cross and other recognized humane organizations; musicians with an army; and a variety of other peo-

ple are considered noncombatants, and are exempted from the treatment accorded to captured combatants. The status of prisoners of war, as far as laws, rules, and customs go, is exceedingly complicated. Where it is desired to weaken an enemy by depriving it of its fighting material, a nation may hold its prisoners of war till after peace is declared. In such a case it will place them in more or less large bodies in locations where they can be kept under surveillance. During the time they are held they are entitled to food, medical attendance, and necessary clothing. As long as they do not disturb the quiet of the place or plot mutiny or resistance to their guard, they should be treated without violence or harshness.

A French decree of 1811 says: "Any prisoner of war, having the rank of an officer, and any hostage, who, after having given his parole, violates it, shall if recaptured, be regarded and treated like a soldier, as to pay and rations, and confined in a citadel, fort, or castle." The theory of modern usage is well stated by Montesquieu, viz.: "To slay an enemy after the battle, or to reduce him to slavery is no longer permitted by international law; to make him lay down his arms, and to hold him as prisoner of war till the reëstablishment of peace (unless a free retreat be granted him, either at once or at a stated time), are what the laws of modern warfare prescribe." A prisoner of war can no longer be forced to serve in the army of the nation which has taken him. It is often the best immediate policy for a nation to speedily relieve itself of its prisoners of war by exchange or freeing them on parole. A prisoner of more than usual importance in a military or political sense, however, may be held with advantage to the close of the war.

War, Prize of, property captured from an enemy, or an enemy's property captured from a neutral in time of war. If the property is captured in naval operations it is known as prize; if in military operations, it is booty. The entire subject of prize and prize money as considered by the United States government is defined in the statute of 1864. In the articles on Blockade, Contraband, and Neutrality will be found accounts of what articles constitute prizes and how they may be seized. The statute providing for their disposal is in brief as follows: It is the first duty of the commanding officer of a vessel which has made a capture to send the prize, in charge of a prize master and prize crew, into the nearest convenient port for adjudication. The prize master takes with him all documents found on the vessel. On reaching port the prize master reports to the district attorney of the district in which the port is located, and the attorney files in the United States District Court of the district a libel against the prize property, and a marshal is placed in charge of it. The court appoints a prize commission of three members, who treat the property as an individual under charges and proceed to try it, examining all papers and taking the depositions of the prize master, crew, owners, or representatives of the property, and other witnesses. The report or findings of the commission is submitted to the court, which condemns or releases the property according to the testimony. If the property is condemned the court orders its sale at public auction, and decides how the proceeds shall be distributed.

In case the captured vessel is not in a condition to be sent to a port for adjudication, an appraisement is made, the property is sold, and the proceeds are deposited with the nearest assistant treasurer of the United States pending disposal according to law. In military operations the booty really belongs to the sovereign or head of the nation whose army has taken it, and consists of personal property. It has been common for the nation to award a portion or even all of the booty to the army that captured it. Possession of the property for 24 hours usually confirms its title to the captor. Public monuments, works of art, libraries, and paraphernalia of religious worship are excluded from property now considered as booty. Movable property belonging to private persons not taking part in hostilities, is not accounted booty by the laws of war, and cannot be taken from the owners. The exception to this rule comprises merchant ships and their cargoes, which may become naval prizes of war.

War, Rules of, a code of instructions for the government of armies during hostilities. The instructions for the armies of the United States are contained in "General Orders No. 100" issued April 24, 1863, and reissued in May, 1898. These instructions, originally prepared for the United States armies alone and in the midst of the Civil War, were found to be so comprehensive that they were adopted by both France and Prussia in the war between them, and were the basis on which a general European conference afterward acted in drawing up an agreement on this subject. They cover almost ever conceivable feature of military conduct and usage in time of war, and define many technical terms. The instructions embrace 10 sections, viz.:

Section 1.— Martial law, military jurisdiction; military necessity, retaliation. Section 2.— Public and private property of the enemy, protection of persons, and especially of women; of religion, the arts and sciences, punishment of crimes against the inhabitants of hostile countries. Section 3.— Deserters, prisoners of war, hostages, booty on the battlefield. Section 4.— Partisans, armed enemies not belonging to the hostile army, scouts, armed prowlers, war rebels. Section 5.— Safe conduct, spies, war traitors, captured messengers, abuse of the flag of truce. Section 6.— Exchange of prisoners, flags of truce, flags of protection. Section 7.— The parole. Section 8.— Armistice, capitulation. Section 9.— Assassination. Section 10.— Insurrection, civil war, rebellion.

The following is a summary of the most important instructions: Military necessity admits of all direct destruction of life or limb of "armed" enemies and of other persons whose destruction is incidentally "unavoidable" in the armed contests of war. Military necessity does not admit of cruelty — that is, the infliction of suffering for the sake of suffering or for revenge, or of maiming or wounding, except in fight, nor of torture to extort confessions. It admits of deception, but disclaims acts of perfidy. It is lawful to starve the hostile belligerents, armed or unarmed, so that it leads to the speedier subjection of the enemy. When a commander of a besieged place expels the noncombatants, in order to lessen the number of those who consume his stock of provisions, it is lawful, though an extreme measure, to drive them back, so as to hasten the surrender. Commanders, whenever admissible, inform the enemy of their intention to bombard a place, but it is no infraction of the common law of war to omit thus to inform them. Surprise may be a necessity.

Retaliation will never be resorted to as a measure of mere revenge, but only as a means of protective retribution, and, moreover, cautiously and unavoidably — that is to say, retaliation shall only be resorted to after careful inquiry into the real occurrence and the character of the misdeeds that may demand retribution. The more vigorously war is pursued, the better it is for humanity. Sharp wars are brief. A victorious army appropriates all public money, seizes all public movable property till further directed by its government, and sequesters for its own benefit or that of its government, all the revenues of real property belonging to the hostile government or nation. The title to such real property remains in abeyance during military occupation, and till the conquest is made complete. The United States acknowledges and protects, in hostile countries occupied by them, religion and morality, strictly private property, the persons of inhabitants, especially those of women, and the sacredness of domestic relations.

Deserters from the American army, having entered the service of the enemy, suffer death if they fall into the hands of the United States. It is against the usage of modern war to resolve in hatred and revenge to give no quarter. Outposts, sentinels, or pickets are not to be fired on except to drive them in, or when a positive order, special or general, has been issued to that effect. Whoever intentionally inflicts additional wounds on an enemy already wholly disabled, or kills him, or orders that this shall be done, shall suffer death if convicted. Martial law is explained as simply military authority exercised in accordance with the laws and usages of war. A place, district, or country occupied by an enemy stands, in consequence of the occupation, under the martial law of the invading or occupying army.

It extends to property and to persons, whether they are subjects of the enemy or aliens to that government. Whenever feasible, martial law is carried out in cases of individual offenders by military courts, but sentence of death shall be executed only with the approval of the chief executive, provided the urgency of the case does not require a speedier execution, and then only with the approval of the chief commander. Martial law should be less stringent in places in countries fully occupied and fairly conquered.

Warbler, a popular name often applied to well-known singing birds of northern climes, whose notes are heard in wood, and hedge, and orchard, many of which commonly receive other popular names, as the blackcap, nightingale, hedgesparrow, redbreast, redstart, stonechat, wheatear, whitethroat, etc., while many receive the name warbler with some adjunct — reed warbler, etc. The more typical genera comprise birds of small size and plain plumage, usually alike in both sexes; most of them are migratory, going a long way S. of their breeding haunts to winter. Numerous species of warblers are found in North

REED WARBLER.

America, as suburban and country residents know, when the sunshine of May ushers in the summertime. They are birds of brighter plumage than the Old World warblers, but resemble them in their habits, and are also migrants.

REED WARBLER'S NEST.

Ward, Artemas, an American military officer; born in Shrewsbury, Mass., in 1727; was graduated at Harvard College in 1748. He served with distinction in the Revolutionary War, and was in command of the besieging forces at Boston till the arrival of General Washington, after which he was stationed with the right wing on Roxbury Heights. In consequence of impaired health he resigned his commission of Major-General, in April, 1776, but at the request of Washington continued to serve till the end of May. He was elected chief-justice of the Court of Common Pleas of Worcester county in 1776; was president of the Massachusetts Executive Council in 1777, and a member of the Legislature for 16 years; and served in Congress in 1791–1795. He died Oct. 28, 1800.

Ward, Artemus. See BROWNE.

Ward, Elizabeth Stuart Phelps, an American novelist and poet; born in Andover, Mass., Aug. 31, 1844. In 1888 she married Herbert D. Ward, with whom she sometimes collaborated. She was the author of many popular books. She died Jan. 28, 1911.

Ward, Henry Augustus, an American naturalist; born in Rochester, N. Y., March 9, 1834; was Professor of Natural Sciences in Rochester University in 1860–1865; and manager of gold mines in Montana and South Carolina in 1866–1869. In 1870 he began to travel in various countries, making large and valuable cabinets of mineralogy and geology, which he distributed among the universities and colleges of the United States. He founded, at Rochester, N. Y., an establishment where these cabinets were prepared, taxidermy executed, and natural-science collections arranged; was acting naturalist on the United States expedition to Santo Domingo; and wrote "Notices of the Megatherium Cuvieri," and "Description of the Most Celebrated Fossil Animals in the Royal Museums of Europe." He died July 4, 1906.

Ward, Mrs. Humphry (Mary Augusta Arnold), an English novelist; born in Hobart Town, Tasmania, June 11, 1851; eldest daughter of Thomas Arnold, second son of the great Dr. Arnold of Rugby. In 1872 she married Thomas Humphry Ward. In 1888 she published the widely read spiritual romance of "Robert Elsmere." Its success was phenomenal. Its successor, "David Grieve" (1892), showed all its faults but hardly all its merits, and yet is said to have brought its author in the first two months no less than $90,000. "Marcella" appeared in 1894; a short story, "Bessie Costrell," in 1895; "Sir George Tressady," a sequel to "Marcella," in 1896; and "Helbeck of Bennisdale," in 1898.

Ward, John Quincy Adams, an American sculptor; born in Urbana, O., June 29, 1830. In 1861 he opened a studio in New York, where he modelled his "Indian Hunter," "The Good Samaritan," Commodore M. C. Perry, with reliefs, "The Freedman," and many busts and small works. In 1869 he built a studio in Forty-ninth Street, New York, where he made the "Citizen Soldier," and statues of Shakespeare, General Reynolds, General Washington, General Israel Putnam, an equestrian statue of General Thomas, General Daniel Morgan and Lafayette. He built a larger studio in 1882, where he made the colossal statue of Washington for the New York subtreasury building, a colossal statue of President Garfield, "The Pilgrim," etc. He designed the crowning group of "Victory" in the arch for the Dewey reception in New York in 1899. He had been vice-president and president of the National Academy of Design. He died May 1, 1910.

Ward, William G., an American educator; born in Sandusky, O., Nov. 5, 1848; was graduated at Ohio Wesleyan University in 1872, and studied theology at Drew Theological Seminary; afterward followed special studies at the Universities of Halle and Berlin; was president of Spokane College in 1890–1892, and Professor of English Literature at Syracuse University in 1893–1898. In the latter year he became Professor of English Literature at the Emerson College of Oratory, Boston, Mass.

Ward, William Hayes, an American editor, clergyman, and Assyriologist; born in Abington, Mass., June 25, 1835; was graduated at Amherst (1856); and at Andover Theological Seminary (1859). He was a pastor of the Congregational Church and professor at Ripon College in 1860–1868; became editor of the "Independent" in 1870. In 1884 he went to Babylon in charge of an exploring expedition. He wrote much on Oriental archæology for the "Bibliotheca Sacra," and other journals, and prepared the report of the expedition of 1884, and published "Biography of Sidney Lanier" (1885), "Notes on Oriental Antiquities."

War Department, one of the executive departments of the United States government; is under the supervision of a Secretary of War, who has entire control of all matters relating to the equipment, discipline, etc., of the military forces of the country, and is charged with the duty of carrying into effect all laws relative to the army enacted by Congress. His authority in military matters is second only to that of the President of the United States. He is a Cabinet officer, and is usually accounted the third in point of dignity and im-

portance, the portfolios of State and the Treasury being the first two. During the stormy career of the republic this office has several times been one on which devolved the conduct of weighty affairs. The first Secretary of War was Henry Knox of Massachusetts, whose term of office began with that of President Washington. During the second war with Great Britain three secretaries of war followed each other in quick succession. They were John Armstrong, James Monroe, and William H. Crawford. The secretary at the time that war broke out was William Eustis. During the Mexican War William L. Marcy guided the department. During Buchanan's administration, the exciting period just preceding the Civil War, John B. Floyd was at the head of the department, and it was charged that his Southern sympathies induced him to store a large amount of war supplies in the South, which supplies when appropriated by the seceding States enabled them to levy war against the general government. He was succeeded by Joseph Holt, who, on the breaking out of hostilities, severed his connection with the department, and was succeeded by Simon Cameron, who in the same year (1861) gave place to Edwin M. Stanton, under whose guidance the department waged the long and bloody war of secession. Stanton during the reconstruction period was succeeded ad interim by Gen. U. S. Grant, and the following secretaries succeeded in the order named: Lorenzo Thomas, John M. Schofield, John A. Rawlins, William T. Sherman, W. W. Belknap, Alphonso Taft, James Don. Cameron, George W. McCrary, Alexander Ramsey, Robert T. Lincoln, William C. Endicott, Redfield Proctor, Stephen B. Elkins, Daniel S. Lamont, Russell A. Alger, Elihu Root, William Howard Taft, Luke E. Wright, and Jacob M. Dickinson.

Ward's Island, an island in the East river, opposite New York city; comprises about 200 acres forming the N. boundary of Hell Gate. It is in the corporate limits of New York city, and contains a large Insane Asylum for Males, a Home for Invalid Soldiers, a Home for Children, a Lunatic Asylum, and the State Emigrant Hospital.

Ware, Henry, Jr., an American clergyman and religious writer; born in Hingham, Mass., April 21, 1794. He took an active part in the organization of the Unitarian movement. He died in Framingham, Sept. 22, 1843.

Warfield, Benjamin Breckinridge, an American educator; born in Lexington, Ky., Nov. 5, 1851; was graduated at Princeton University in 1871; studied at the Princeton Theological Seminary and at the University of Leipsic; became Professor of New Testament Language and Literature in the Western Theological Seminary in 1878, and continued there till 1887, when he was called to the chair of didactic and polemical theology at Princeton Seminary.

Warfield, Ethelbert Dudley, an American educator; born in Lexington, Ky., March 16, 1861; graduated at Princeton University in 1882; Professor of History in Miami University in 1888–1891; became president and Professor of History in Lafayette College in 1891; and was ordained in the Presbyterian Church in 1899.

War Indemnity, the sum of money paid by the defeated country in an international war to the victorious government. The largest amount ever demanded in this way was $1,000,000,000, which France was compelled to pay Germany after the war of 1870–1871. The war lasted 28 weeks; the number of German troops was estimated in round numbers at 1,000,000; of these they lost 128,000. Germany therefore received in cash $35 a week for each man's services, or $8,000 for each man lost.

In the war of 1866 Prussia took from Austria and her allies a war indemnity of $41,750,000, besides $3,750,000 requisition during the campaign. Prussia had 437,000 men in the field and lost 11,000; the war lasted one month; she received, therefore, $25 a week for each man's services, or $4,200 for each man lost. The war between Japan and China covered about nine months and the amount paid by the latter nation was $185,000,000. The Japanese had 80,000 troops which made the indemnity equivalent to $60 a week for each sol-

dier. But for the intervention of Russia the sum paid by China would have been much larger.

For the Turko-Russian war of 1877, Russia demanded $701,000,000, but her claim was reduced to $160,000,000, which amounted to $6.25 for each soldier. Great Britain has received two indemnities from China, the first, in 1840, being $25,000,000 and the second in 1860 about $10,000,000. The claim of Canada for indemnity for the Fenian raid from the United States in 1866 was settled by England, which country was anxious to maintain friendly relations with the United States government. In every instance where an indemnity has been exacted, save in the case of the Turko-Russian war of 1877, a portion of the vanquished power's territory has remained in military occupation by the victor, at the expense of the defeated nation, till the money has been paid. No indemnity beyond the cession of territory was exacted of Denmark by Austria and Prussia at the close of the war of 1864, and the same thing may be said of Austria at the time of her defeat by France and Italy in 1859. The Sultan of Turkey was forced by the powers to reduce his claims of $50,000,000 on Greece at the close of the war of 1897 to $10,000,000.

The settlement of war claims between the United States and Spain at the end of the war of 1898 was unique. The Spanish-American war lasted four months; it cost the United States $150,000,000, in money and 1,941 men. The Spaniards were defeated in every battle on sea and land, and finally sued for peace. A treaty prepared by a joint commission of American and Spanish representatives, was signed by President McKinley Feb. 10, and by the Queen Regent of Spain, March 17, 1899. By the terms of this treaty the United States relinquished all claims for indemnity of any kind, and agreed to send back to Spain, at its own cost, all Spanish soldiers taken prisoners, with their arms. All the stands of colors, uncaptured ships, small arms and guns of every kind, with their accessories, together with materials and supplies of all kinds belonging to the land and naval forces of Spain and the islands of the Philippines and Guam were to remain the property of Spain. The pieces of heavy ordnance, exclusive of field artillery, in the fortifications and coast defenses were to remain in their places for six months, the United States being permitted to purchase them from Spain during that time if satisfactory terms could be agreed on. The United States further agreed to pay to Spain the sum of $20,000,000. On her part, Spain was to relinquish all claim of sovereignty over Cuba; to cede to the United States the island of Porto Rico, and other islands then under Spanish sovereignty in the West Indies; the island of Guam, in the Ladrones; and the archipelago known as the Philippine Islands. In this case it would appear that the victors paid for their success and the conquered profited by their defeat, reversing the old proverb, "To the victors belong the spoils."

At the close of the trouble between China and the powers, growing out of the Boxer uprising in 1900, it was agreed that China pay the powers 450,000,000 taels as an indemnity.

Waring, George Edwin, an American sanitary engineer; born in Poundridge, N. Y., July 4, 1833. When the Civil War broke out he was commissioned major of the 39th New York Volunteers. He recruited six troops of cavalry, which, with the Benton Hussars, were organized into the 4th Missouri Cavalry, of which he was commissioned colonel. In 1877 he turned his attention to sanitary engineering. After the yellow-fever epidemic of 1878 in Memphis, Tenn., he planned and executed a sewerage system in that city which attracted the attention of sanitarians everywhere, and which has been adopted since in many large cities. In 1882 he was appointed a member of the National Board of Health, and remained on it several years. He was commissioner of street cleaning in New York city from Jan. 15, 1895, to Jan. 1, 1898; introduced the white canvas uniforms for street cleaners; and won wide commendation by his effective work. In October, 1898, he was sent to Havana by the United States government to arrange a plan for the sanitary improvement of that

city, and while there contracted yellow fever from which he died in New York, Oct. 29, 1898. A large sum of money was raised by subscription in New York and paid to his widow.

Warman, Cy, an American author; born in Greenup, Ill., June 22, 1855; received a common school education; settled in Colorado in 1880 and was employed in the Denver and Rio Grande railroad shops. In 1888 he engaged in journalism; became editor of the "Western Railway," and in 1892 of the "Creede Chronicle." He traveled in Europe and became known as "the poet of the Rockies." His publications include "Sweet Marie" (a popular song); "Tales of an Engineer" (1895); "The Express Messenger" (1897); "Frontier Stories" (1898); "The Story of the Railroad" (1898); "The White Mail", etc.

Warmoth, Henry Clay, an American lawyer; born in McLeansboro, Ill., May 9, 1842; was admitted to the bar in 1861; entered the Union army in 1862 as lieutenant-colonel. He accompanied President Johnson on his "swing around the circle" through the Eastern and Northern States; became governor of Louisiana in 1868; and was military governor of that State till its new constitution was accepted by Congress, and was then inaugurated as civil governor and served till 1873. He was collector of customs at New Orleans in 1889–1893, and later became president of the New Orleans, Fort Jackson, and Grand Isle railroad.

Warner, Charles Dudley, an American editor and author; born in Plainfield, Mass., Sept. 12, 1829; was graduated at Hamilton College in 1851; admitted to the bar in 1856, and practised in Chicago till 1860, when he removed to Hartford, Conn.; became editor of the "Press" in 1861, and of the "Courant" on its consolidation with the "Press" in 1867. He was connected with "Harper's Monthly Magazine," in charge of an editorial department for many years from 1884. His first book was a compilation for the use of students in schools, called "A Book of Eloquence." He was the author of a large number of works, and editor of "A Library of the World's Best Literature" (1896–1898). He died in Hartford, Conn., Oct. 20, 1900.

Warner, Olin Levi, an American sculptor; born in Suffield, Conn., April 9, 1844; first studied in the Ecole des Beaux Arts in Paris and later was a student in Carpeaux's studio. In 1877–1878 he modeled "Twilight," a small statue, which established his reputation. His works include "The Dancing Nymph"; "Cupid and Psyche"; reliefs of Joseph and other Indian chiefs; busts of J. Alden Weir, Miss Maude Morgan; and statues of Governor Buckingham of Connecticut, William Lloyd Garrison, General Devens; etc. Died in New York city, Aug. 14, 1896.

War of 1812, the second serious conflict between Great Britain and the United States. It lasted for over two and a half years, beginning June 19, 1812. The principal cause of this war was the interference of Great Britain with American vessels, which she caused to be stopped on the high seas and searched for British subjects who were forced into the navy or imprisoned for refusing to serve. Several times American men-of-war were fired on and compelled to give up seamen in their crews. Great Britain also interfered with our commerce by her blockades and Embargo Act, and a bitter feeling was aroused. James Madison, at that time President of the United States, was personally opposed to a war, but was overruled by Congress, which appropriated large sums for the army and navy. It ended with the treaty of Ghent, which was signed Dec. 24, 1814, and ratified Feb. 18, 1815. The following is a chronology of this war:

1812.

Hull's expedition against Fort Malden.
Fort Mackinaw captured by the British and Indians.
Aug. 5—First Battle of Brownstown, Mich. British defeated the Americans under Van Horn.
Aug. 9—Second battle of Brownstown. Americans victorious.
Aug. 13—British sloop "Alert" taken by the United States ship "Essex" off Newfoundland.
Aug. 16—Hull surrendered the fort and city of Detroit.

Aug. 19—The "Guerriere," a British frigate, captured by the "Constitution" off Massachusetts.
Oct. 13—Battle of Queenston. Van Rensselaer wounded. Brock killed.
Oct. 13—Battle of Lewiston, N. Y.
Oct. 18—British ship "Frolic" captured by the United States ship "Wasp" off North Carolina.
Oct. 25—British ship "Macedonia" captured by the United States ship "United States" off Canary Islands.
Dec. 29—British frigate "Java" captured by the United States ship "Constitution" off Bahia, Brazil.

1813.

Jan. 22—Battle of Frenchtown, Mich. Americans under Winchester defeated by the British General Proctor.
Feb. 24—British brig "Peacock" captured by the United States ship "Hornet" off Demerara, South America.
March 4—Madison began second presidential term.
April 27—Battle of York (now Toronto).
May 1—Fort Meigs was besieged by 2,000 British and Indians under Proctor, who were routed by General Clay with a force of Kentuckians.
May 29—Prevost makes an unsuccessful attack on Sackett's Harbor.
June 1—The United States ship "Chesapeake," Captain Lawrence, captured by the British ship "Shannon," Captain Broke, in Massachusetts Bay.
Aug. 3—Fort Stephenson, Ohio, defended by Major Crogan.
Aug. 14—American brig "Argus" captured by the British ship "Pelican" in the English Channel.
Aug. 30—The Creek Indian War.—Massacre of Fort Mimms, Ala.
Sept. 5—British brig "Boxer" captured by the United States ship "Enterprise" off Maine.
Sept. 10—Commodore Perry's victory over the British commanded by Captain Barclay at the W. end of Lake Erie.
Oct. 5—Battle of the Thames. Tecumseh, the Shawnee chief, killed and the Indian confederacy broken.
Nov. 9—General Andrew Jackson defeated the Creeks at Talladega, Ala.
Nov. 11—Battle of Chrysler's Field, Can.—Americans victorious.

1814.

March 27—Battle of Horseshoe Bend, Ala.—Creek War ended.
March 28—American frigate "Essex" captured by the British ships "Phœbe" and "Cherub" off Chile.
April 29—British brig "Epervier" captured by the United States ship "Peacock" off Florida.
June 28—British sloop "Reindeer" captured by the United States ship "Wasp" near the British coast.
July 3—Americans under Generals Scott and Ripley captured Fort Erie, Canada.
July 5—Battle of Chippewa, Canada.—Scott defeated the British under Riall.
July 25—Battle of Lundy's Lane, Canada.
Aug. 15—First battle of Fort Erie.—British force of 5,000 men repulsed.
Aug. 24—British under Ross dispersed Americans at Bladensburg, Md.
Aug. 24—Washington, D. C., captured by the British under Ross. Public buildings burned.
Sept. 11—Battle of Lake Champlain. Captain Downie, British, surrendered his fleet to Commodore McDonough.
Sept. 11—Battle of Plattsburg, N. Y. Prevost, British, defeated by Americans under McComb.
Sept. 12—Ross, British, defeated Americans at North Point, Md. Death of Ross.
Sept. 13—Brooks bombarded Fort McHenry, Md., but withdrew without reducing the fort.
Sept. 15—Fort Boyer, Mobile Bay, bombarded by the British without success.
Sept. 17—Second battle of Fort Erie. Gen. Jacob Brown dispersed besiegers.
Nov. 7—Gen. Andrew Jackson drove the British from Pensacola, Fla.
Dec. 14—American flotilla surrendered to the British at Lake Borgne, La.
Dec. 23—Preliminary battle nine miles from New Orleans, La.—Gen. Andrew Jackson retired to intrenchments.
Dec. 24—Treaty of Ghent, Belgium, peace between Great Britain and the United States signed.

1815.

Jan. 8—Battle of New Orleans.—Fourteen days after treaty of peace.

(The British General Pakenham lost 2,000 men, and was killed.—The Americans lost seven men.)

Jan. 15—British squadron captured the United States frigate "President" off the coast of New Jersey.

Feb. 20—British ships "Cyane" and "Levant" captured by the United States ship "Constitution" off Madeira Islands.

March 23—British brig "Penguin" captured by the United States ship "Hornet" off Brazil.

War Prizes, Distribution of Value, the judicial apportionment of the proceeds of sale of condemned prizes of war. If a captured vessel of an enemy or a neutral contains munitions of war all such property is confiscated and passes to the government of the capturing vessel. Where the prize vessel is of superior or equal force to the captor vessel the net proceeds of the sale of vessel and cargo is awarded under the statute to the captors; and where the prize is of inferior force, one-half of the net proceeds goes to the government, and the other half to the captors. All vessels of the navy which aid a captor in securing a prize share with it in the proceeds. The distribution of prize money among the men taking part in the capture is substantially on the following basis: To the commanding officer of a fleet or squadron, one-twentieth part of all prize money awarded to any vessel or vessels under his immediate command. To the commanding officer of a division of a fleet or squadron on duty under the orders of the commander-in-chief of such fleet or squadron, one-fiftieth part of any prize money awarded to a vessel of such division for a capture made while under his command; but such part shall not be in addition to the share he would be entitled to as commander of the vessel making or aiding the capture. To the fleet captain, one-hundredth part of all money awarded to any vessel or vessels of the fleet or squadron in which he is serving; but if the capture is made by the vessel on which he is serving at the time, he will share in the award with all the officers and men on the vessel in proportion to his annual pay. To the commander of a single vessel, one-tenth part of all awards to his vessel, when the vessel at the time of the capture is under the orders of a superior officer, and three-twentieths when the vessel is independent of such other officer. After this apportionment, the residue of prize money is distributed among all others on duty on the capturing or assisting vessel or vessels at the time of the capture, in proportion to their rates of pay in the service. The law also provides a special bounty where an enemy's vessel is sunk or otherwise destroyed in an engagement, and the officers and crew thus lose the opportunity for acquiring prize money. This bounty is $100 for each person on board an enemy's ship or vessel of war at the beginning of an engagement resulting in its destruction, and is distributed among the officers and crew of the vessel or vessels taking part in the destruction in proportion to their regular pay.

Warrant, to give a guaranty to; to authorize; to give power or authority to, as to do or forbear anything, by which the person authorized is secured or held harmless from any loss, damage, or detriment by such act; as, these thoughts cannot warrant you from suspicion in others. In law, to assure; to secure to, as a grant to a guarantee. To secure, as the valid title of goods to a purchaser; or, to provide indemnification in the event of loss.

In criminal law, the authority issued by a justice of the peace for the apprehension of some one. The warrant should be under hand and seal of the justice; should set forth the time and place of making it, and the cause for which it is made; and should name the person against whom it is granted.

Warrant Officer, one of the highest ranks to which seamen under ordinary circumstances can attain. They are divided into three classes — gunners, boatswains, and carpenters, the gunners taking precedence of the other two. Formerly, before ironclads superseded the wooden ships, there was only one officer of this rank of each class carried on board even the largest ships. Now, in addition to the officer of each class appointed to carry

out the special duties of gunner, boatswain, and carpenter on board every ship, there are usually three or four junior gunners or boatswains appointed to battleships and some of the larger of other classes of ships to perform what are called quarter-deck duties, in addition to which in many of the larger ships an extra gunner or boatswain is appointed for torpedo duties. A certain proportion of these officers who have duly qualified in navigation are now appointed to command torpedo boats.

Warranty, in law, a promise or covenant by deed, made by the bargainer, for himself and his heirs, to warrant or secure the bargainee and his heirs against all men in the enjoyment of an estate or other thing granted. The use of warranties in conveyances has long been superseded by covenants for title, whereby, as the covenanter engages for his executors and administrators, his personal as well as his real assets are answerable for the performance of the covenant.

Warren, Gouverneur Kemble, an American military officer; born in Cold Spring, N. Y., Jan. 8, 1830; was graduated at the United States Military Academy in 1850. When the Civil War broke out he became lieutenant-colonel of the 5th New York Volunteers and colonel in August, 1861. He was promoted captain of United States Engineers, Sept. 9, 1861; promoted Brigadier-General of volunteers in September, 1862, for his gallantry at Gaines' Mill, and chief of topographical engineers in February, 1863. In March of the same year he was made chief of engineers in the Army of the Potomac. He was promoted Major-General of volunteers in May, 1863, and in March, 1864, when the Army of the Potomac was reorganized he was placed in command of the 5th corps. In June, 1864, he was promoted major of United States Engineers, which post he assumed in May, 1865, when he was mustered out of the volunteer service. He was brevetted Major-General U. S. A. in March, 1865, and promoted lieutenant-colonel in March, 1874. He died in Newport, R. I., Aug. 8, 1882. A statue was erected to his memory on Little Round Top, Gettysburg, Pa., in 1888.

Warren, Joseph, an American patriot; born in Roxbury, Mass., June 11, 1741. On June 14, 1775, he received a commission as Major-General; and when a majority of the council of war determined to fortify Bunker Hill, he insisted on having a share in the action that would take place. He was killed at the battle of Bunker Hill, June 17, 1775. His statue, by Henry Dexter, was unveiled on Bunker Hill, June 17, 1857.

Warren, Mercy Otis, an American patriot; born in Barnstable, Mass., Sept. 25, 1728. An ardent patriot, she corresponded with the leaders of the Revolution, among them Samuel and John Adams, and Thomas Jefferson. The "Correspondence of John Adams and Mercy Warren" was published by the Massachusetts Historical Society in 1878. She wrote dramatic and satirical poems against the Royalists (1773–1775), which were included in her volume of "Poems, Dramatic and Miscellaneous" (1790). She published "A History of the Rise, Progress, and Termination of the American Revolution, Interspersed with Biographical, Political, and Moral Observations" (3 vols. 1805). She died in Plymouth, Mass., Oct. 19, 1814.

Warren, William Fairfield, an American educator; born in Williamsburg, Mass., March 13, 1833; was graduated at Wesleyan University in 1853. He was appointed acting president of the Boston Theological Seminary in 1866; accepted the presidency of Boston University in 1873, and also the chair of philosophy of religion and comparative theology.

Warship, an armed vessel, built for the purpose of waging war on the water; a naval vessel. Warships have always been an important factor in the armament of those states which have a portion or the whole of their territory contiguous to the seas of the world. In no branch of warfare have the means of offense and defense been, in a few years, the subject of so much change, both in type and effectiveness, as in naval construction

and armament. For many centuries after the invention of firearms the progress in the direction of invulnerable warships was very slow, and it was not till the naval operations of the American Civil War had given to the civilized nations of earth a great object lesson that the development of ships as fighting machines was accelerated. Prior to that time the strength of naval vessels was considered to lie entirely in the number of men and guns that a ship carried. The building by the Confederate government of the iron-clad ram "Virginia" directed attention to the value of armor-clad ships, and especially such ships when armed with a beak or ram, as a means of offense. The construction by Captain Ericsson of the "Monitor," and the successful fight of that vessel against the "Virginia," convinced naval architects that wooden warships were obsolete.

From this point the development of strength in warships is marvelous. Each civilized nation vied with the other in production of what was vainly imagined would prove invincible and invulnerable ships, but as fast as the defensive power of armor was increased the offensive power of the guns with which other ships were armed was augmented. This led to a great reaction in the methods of naval construction, and the efforts of engineers were directed to the production of warships of the swift cruiser type, rather than that of the battleship, and for a while the United States government constructed only swift armored and protected cruisers. The first contract for first-class battleships for the United States navy was signed in 1890, and they were officially designated "coast-line battleships." At the opening of the Spanish-American war the United States had a splendid navy, which proved its prowess in a way that astonished the Old World powers. The building of the American navy continues, and it is certain that the American navy would prove itself worthy of its record in any conflict to come. See DREADNAUGHTS.

Warships, Classification of, the division of the vessels in a navy according to rating and type. In the United States navy the basis of rating is the displacement of a vessel, or, practically, its weight. All vessels having a displacement of 5,000 tons and upward are classed as first rates; those between 5,000 and 3,000 tons as second rates; those between 3,000 and 1,000 tons as third rates; and those below 1,000 tons as fourth rates. The classification by type is first and second-class battleships; armored, protected, partially protected and unarmored cruisers; barbette, single and double-turret monitors; auxiliary cruisers, consisting of large and swift mercantile steamships, partially protected and armed; gunboats; torpedo boats; tugs; patrol boats, adapted from ocean-going tugs and swift steam yachts; and a variety of special vessels such as the dynamite gun vessel "Vesuvius," the harbor defense ram "Katahdin," and the torpedo ram "Alarm." The special vessels provided for the war with Spain included large hospital and ambulance ships; a vessel equipped as a mammoth machine shop, with a large force of skilled workmen to make instant repairs to disabled fighting ships; and vessels fitted up to carry coal, food, ice, and water. The classification by rating differs from that by type. All the battleships are first rates; one double-turret monitor, the "Puritan," is a first rate; all other double-turret monitors are second rates; the cruisers are distributed among the four rates; and the gunboats are third and fourth rates.

In general, first rate ships are named after the States of the Union; second rate after cities in the United States; third rate after important events or names connected with the naval history of the United States; fourth rate after lakes and rivers in the United States; and special vessels for the distinctive service for which they are designed, as the hospital ship "Solace"; the naval repair ship "Vulcan," etc. The monitors as a class are named after rivers and American Indians. All the first-class battleships in service or under construction have a displacement of more than 10,000 tons; five are of 11,525 tons each, three of 10,288 tons, and one of 11,410. The ill-fated "Maine" was a second-class battle-

ship and had a displacement of 6,682 tons, and her only sister ship, the "Texas," has a displacement of 6,315 tons.

War Song, a song having war or warlike deeds for its subject, or one that incites to war; more specifically, such a song sung by soldiers about to charge the foe, or by warriors at a war dance. The following is a list of the principal war songs of various nations:

American.—"Battle Cry of Freedom," the "Battle Hymn of the Republic," and "Marching Through Georgia," sung by the Union soldiers in the Civil War (1861–1865); "Dixie's Land" and "Maryland, My Maryland," sung by the Confederates.

Austrian.—Haydn's "Hymn to the Emperor."

Belgian.—The patriotic "Brabanconne."

Danish.—The "Song of Danebrog." The danebrog is the flag with a white cross which fell from heaven in the 13th century at the prayer of Waldemar II., and which ensured him the victory.

English.—"Rule Britannia." Words by Thomson, music by Handel.

French.—(Ancient), the "Chanson de Roland" ("Song of Roland").

French.—(Modern) the "Marseillaise" ("The Marseilles") and the "Chant du Depart" ("Parting Song").

German.—(Modern), Arndt's "Des Deutschen Vaterland" ("The German's Fatherland"), and "Heil Dir im Siegerkranz" ("Hail to Thee in the Conqueror's Wreath"), "Watch on the Rhine," "Sword-song of Korner," etc.

Hungarian.—The "Rakoczy March."

Italian.—Garibaldi's warlike hymn, composed by Mercantino, and Godfredo Mameli's "Italian brethren, Italy has awaked!"

Russian.—"God Protect the Czar!"

Scotch Jacobite Songs.—"The King shall enjoy his own again," and "When the king comes o'er the water." The "Lillibulero" of 1688 created a most marvelous furore.

Wart, a collection of lengthened papillæ of the skin closely adherent and ensheathed by a thick covering of hard dry cuticle. From friction and exposure to the air the surface presents a horny texture, and is rounded off into a small button-like shape. Such is the description of the simple wart, which is so commonly seen on the hands and fingers (and rarely on the face or elsewhere) of persons of all ages, but especially of children. Nothing is known of the cause of warts.

Wart Hog, closely resembling the true hogs in most of their characters, and particularly in their feet, but remarkably differing from them in their dentition: The number of teeth is much reduced; the canines become the large tusks, and in the adult the last molar only is found in each jaw, which grows to an enormous size as in the elephant. The head is very large, and the muzzle very broad; the cheeks are furnished with large wart-like excrescences, so that the appearance is altogether very remarkable and uncouth. The species are all natives of Africa. They feed very much on the roots of plants, which they dig up by means of their enormous tusks. The flesh of all the wart hogs and water hogs is in high esteem. They are hunted by dogs, which are often killed in the encounter with them.

WART HOG.

Warwick, Richard Neville, Earl of, "the king-maker," a great English nobleman, born 1428, killed 1471. He was the son of the Earl of Salisbury, and became Earl of Warwick by marrying the heiress of the title and estates. Taking the Yorkist side in the Wars of Roses, he was the main instrument in placing Edward IV. on the throne in 1461 in place of Henry VI., and became the most powerful nobleman in the kingdom. Quarreling with Edward on account of the latter's marriage, he went over to

Henry's side, and was able again to place him on the throne, but was slain at the battle of Barnet, and Edward recovered the crown.

Washburn, Charles Ames, an American editor, historian, and novelist; born in Livermore, Me., March 16, 1822. He was editor and proprietor of the "Alta California," and the San Francisco "Daily Times" (1858–1861); minister to Paraguay (1861–1865), residing in that country also from 1866 to 1868. He died in New York, Jan. 26, 1889.

Washburn, George, an American educator; born in Middleboro, Mass., March 1, 1833; was graduated at Amherst College in 1855, and at Andover Theological Seminary in 1859; became Professor of Philosophy in Robert College, Constantinople, in 1868; was acting president there in 1870–1877, and became president in the latter year. He was an authority on the political questions of Southeastern Europe. During the World's Parliament of Religions in Chicago, in 1893, he delivered an address on Mohammedanism. He contributed many articles to English and American periodicals.

Washburn, William Drew, an American manufacturer; born in Livermore, Me., Jan. 14, 1831; was graduated at Bowdoin College in 1854; studied law and began practice in Minnesota in 1857. He later acquired large interests in the lumber and flour industries; was a partner for many years in the Washburn and Crosby flouring mills, and afterward became a director in the Pillsbury-Washburn Company, which had a daily capacity of 22,000 barrels. He was the projector and for many years the president of the Minneapolis and St. Louis railroad; was also the builder of the Minneapolis, St. Paul, and Sault Ste. Marie railroad, of which he remained president till 1889; held a seat in Congress in 1879–1885; and was a United States Senator from Minnesota in 1889–1895.

Washburn College, a coeducational institution in Topeka, Kan.; founded in 1865 under the auspices of the Congregational Church.

Washburne, Elihu Benjamin, an American statesman; born in Livermore, Me., Sept. 23, 1816. He early tried journalism, but abandoned it to study law at Harvard; was admitted to the bar in 1840 and began practice in Galena, Ill. He was elected to Congress in 1852 and held office till 1869, when he was appointed Secretary of State by President Grant, and soon after minister plenipotentiary to France. During the Franco-Prussian War he made the American legation the refuge of Germans and other foreigners who could not leave Paris. For this service he received special honors from the Emperor of Germany and Bismarck, as well as from the French leaders, Gambetta and Thiers. In 1887 he published "Recollections of a Minister to France." After he returned to the United States he resided in Chicago, where he died Oct. 22, 1887.

Washington, a State in the Western Division of the North American Union; bounded by British Columbia, Idaho, Oregon, Puget Sound, and the Pacific Ocean; admitted to the Union, Nov. 11, 1889; capital, Olympia; number of counties, 36; area, 66,880 square miles; pop. (1890) 349,390; (1900) 518,103; (1910) 1,141,990.

The surface of the State is exceedingly rugged, being traversed from N. to S. by the great range of the Cascade Mountains about 100 miles from the coast. The highest peaks, all extinct volcanoes, are Mount Rainier, 14,444 feet; Mount Baker, 10,827 feet; Mount St. Helena, 9,750 feet; and Mount Adams, 9,000 feet. Puget Sound extends inland about 80 miles and contains many excellent harbors. The Pacific coast has numerous prominent headlands, including Capes Disappointment, and Flattery. The principal river is the Columbia.

Washington is called the Pennsylvania of the Pacific on account of its mineral wealth, especially in coal, in the Puget Sound basin. Gold is found in the Yakima valley, and silver near Spokane. The principal mineral products in 1900 were coal, 2,474,093 short tons, valued at $4,700,068; coke, 33,387 short tons, valued at $160,165; mineral waters, 62,500 gallons, valued at $8,200; gold, 34,743 fine ounces, valued at $718,200; silver, 224,500 fine ounces, valued at $139,190; granite, $48,900; sandstone, $68,133; marble, $11,836; limestone, $249,163; and clay products, $591,277.

The river valleys and plains of Eastern Washington have under scientific irrigation become exceedingly fertile and productive. Stock raising and dairy farming are becoming important industries. The principal farm crops in 1900 were corn, wheat, oats, barley, rye, potatoes, and hay.

According to the United States census of 1900, the State had 3,631 manufacturing establishments, employing $52,649,760 capital and 36,048 persons; paying $21,360,897 for wages and $49,099,182 for materials; and having an aggregate output valued at $86,795,051. The principal manufactures, according to values of output, are lumber and timber; flour and grist; canned fish; foundry and machine shop products; shipbuilding; railroad cars; and malt liquors.

The governor is elected for a term of four years, and receives a salary of $4,000 per annum. Legislative sessions are held biennially and are limited in length to 60 days each. The Legislature has 34 members in the Senate and 80 in the House. There is one Representative in Congress.

Washington was a part of Oregon Territory till the admission of Oregon, in 1853, when this section was separately organized as Washington Territory. There was subsequently considerable trouble with the Indians. Immigration having set actively in that direction, it was admitted into the Union as a State, Nov. 11, 1889.

Washington, a city, and the capital of the United States of America; in the District of Columbia; at the confluence of the Potomac and the Anacostia, or East Branch, rivers, and on the Pennsylvania, the Baltimore and Ohio, the Southern, The Chesapeake and Ohio, and the Richmond, Fredericksburg, and Potomac railroads; 136 miles S. W. of Philadelphia; 226 miles S. W. of New York; 40 miles S. W. of Baltimore, and 185 miles W. of the Atlantic Ocean. The site of the city is an admirable one, surrounded by a circle of hills and comprising a rolling plain, with here and there irregular eminences which provide beautiful and advantageous positions for the various public buildings. The city was laid out expressly for the National Capital and on a scale indicating that it was expected to grow into a vast metropolis; area, 69¼ square miles; pop. (1900) 278,718; (1910) 331,069.

The United States and the District of Columbia own an extensive waterworks system, costing $10,000,000. The reservoirs have a storage capacity of 76,000,000 gallons, and the water is distributed through 381 miles of mains. The consumption averages 55,000,000 gallons a day. There are in all 320 miles of streets, of which 266 miles are paved. The streets of Washington are irregularly laid out, being from 70 to 160 feet wide. Pennsylvania Avenue is the principal street of the city, having on or near it many of the leading hotels, theaters, stores, etc. F street is the next business street in importance. The sewer system covers 418 miles. The streets are lighted by gas and electricity at an annual cost of about $250,000. The average cost of the police department exceeds $743,500 per annum, and that of the fire department $185,000. The annual cost for the maintenance of the city government is over $9,052,000. The annual death rate averages 21.82 per 1,000.

The city contains many magnificent structures. The Capitol, crowning Capitol Hill and costing $13,000,000, is one of the most beautiful public edifices in the world. It is built in pure Classic style, with two immense wings of white marble, extending from a central structure constructed of light yellow freestone painted white. The main front facing E. is beautified with three splendid porticoes adorned by Corinthian pillars. The central portico contains noted groups of statuary, and on the esplanade immediately in front stands Greenough's famous colossal statue of Washington. The entrance to the rotunda is by the celebrated bronze door, designed by Randolph Rogers and made by Von Muller in Munich. It is 17 feet high by 9 feet wide, and cost $28,000. The relief work on the door commemorates the discovery of America by Columbus. The walls of the interior of the rotunda, which is 180 feet high and 96 feet in diameter, are ornamented with eight panels containing paintings of scenes in American history; while in a space 9 feet wide encircling the hall at a height of 107

feet there is a series of relief illustrations, also of American history. Above the rotunda is built the famous dome, which is 96 feet in diameter and 220 feet from the floor at its highest point. The exterior of the dome is 135½ feet in diameter, 241 feet above the main buildings, and 307½ feet from the ground. A spiral flight of stairs between the inner and outer walls leads to the gallery of the dome, which affords an excellent view of the fresco paintings overhead. The cupola on the top of the dome is 17 feet in diameter and 52 feet high and is surmounted by a ball on which stands a bronze statue of "Liberty" 19½ feet high, by Crawford. The next most impressive feature of the Capitol is the National Statuary Hall, formerly the Old Hall of the Representatives. In form it is semi-circular, and contains 24 columns. The ceiling is 57 feet high at the apex and the length of the room is 96 feet. Here are statues of the two most eminent men from each State in the Union. The Hall of Representatives in the S. wing is said to be the finest legislative chamber in the world. It is 36 feet high and 139 feet long by 93 feet wide. It contains galleries with 1,500 seats for spectators, and desks for members (386 in 1903). The Senate chamber is 113 feet long by 81 feet wide. It also contains galleries accommodating 1,000 visitors, and desks for 90 Senators. Both of these chambers are tastefully decorated and are splendid specimens of architecture. The Capitol also contains the Vice-President's room, various committee chambers, etc. The grounds surrounding the Capitol comprise about 50 acres, and are divided into the East and West grounds. They form a beautiful specimen of landscape gardening and are adorned with numerous pieces of statuary and many fountains.

The Capitol will in the near future receive the most extensive addition which has ever been made to it. This statement is especially significant from the fact that the entire history of the building has comprised a series of additions to a nucleus of rather meager proportions. The present project dates from the spring of 1901, when the architect of the Capitol was directed by act of Congress to prepare plans for the extension of the central portion of the Capitol, for the renovation and decoration of the rotunda and for the erection on ground adjacent to the Capitol of a fireproof building for office, storage and power-plant purposes.

Presumably no architect would have the temerity to suggest any radical change in the structure of the Capitol; but in the interest of adherence to the present style it is particularly fortunate that plans for an enlargement such as is now contemplated were handed down to the present architect of the Capitol from his distinguished predecessor, the late Thomas U. Walter, architect and engineer, perhaps best known to fame as the creator of the great white dome of the Capitol and the marble wings now occupied by the Senate and House of Representatives, respectively. Not only was the enlargement of the Capitol provided for in the plans prepared years ago, but the extension soon to be undertaken will in reality but carry out the original conception of an enlarged Capitol as evolved by Architect Walter at the time he planned the Senate and House wings and capped the structure with its stately dome. Moreover, the new portion, instead of appearing incongruous or out of harmony with the present pile, will actually add to the majesty of the effect when it is viewed as a whole.

The old Capitol building, fostered by George Washington and designed by Thornton, was considered to afford, when completed in 1830, ample accommodations for the then existing and probable future needs of the country. However, the tremendous progress of the nation soon rendered imperative the provision of more space. Then came the first extension begun in 1851 and completed in 1859. Congress authorized and Architect Walter carried out the construction of the marble additions at the N. and S.

In this, as in all of his work in connection with the Capitol, the architect adhered faithfully to the spirit of the original; and realizing at the same time that the future might again find the Capitol inadequate in accommodations, he devoted much time to the preparation of plans for an extension to the E. of the present build-

ing — an addition which would harmonize with what already existed, and also give additional beauty to the splendid dome which he designed and erected, and which he hoped would one day grace a completed structure. The most eminent architects have agreed that in meeting present exigencies it would be unwise to alter the original plan in any particular as concerns the exterior proportions and alignments. The construction of the addition contemplated will cost approximately $2,500,000, and while it involves the removal of the old portico at the E., it does not involve the removal of the principal walls of the old and historical portion of the Capitol. The present front wall of the old building remains as the rear wall of an open court which lights the W. side of the proposed addition.

It is difficult for even the persons thoroughly familiar with the building to appreciate what an enormous addition will be made to the capacity of the structure by this new construction. The area will be increased in the aggregate from 132,730 square feet to 184,120 square feet, an increase of 51,390 square feet, or 38 per cent. Otherwise expressed, the increase of the capacity of the building amounts to 1,854,400 cubic feet, of which amount 1,068,000 cubic feet are provided in the new E. front, or in other words, the addition to be built E. from the central portion of the building as at present constituted. It may seem well-nigh incredible that there is available space for such an addition as is proposed with so slight a departure from the present perspective. As a matter of fact, however, the central flight of marble steps on the E. front, leading to the portico of the rotunda, is indented 20 feet within the line of the two marble wings. Not only will all the space of this indentation be occupied by the addition, but it will project about 15 feet beyond the line of the wings, thus eliminating all suggestion of a rambling appearance in the building considered as a whole, as well as any suspicion of the undue size of the dome.

In the interest of the maintenance of absolute harmony, the extended front will be faced with a magnificent portico of fluted Corinthian columns, so elaborate and superior in general contour and size as to unmistakably dominate the porticoes of the wings. In short, the new construction will not only convey an impression of greater depth and compactness in the entire building, but will also provide a larger, broader and consequently more imposing base for the massive dome.

The new Congressional Library is built just E. of the Capitol in a square comprising about 10 acres. It is three stories high, 470 feet long by 340 wide, is constructed of white New Hampshire granite in the Italian Renaissance style, and cost $6,347,000. The building contains an octagonal reading room, 100 feet in diameter. There are many magnificently carved marble arches. The library is constructed around four spacious inner courts and in all has over 2,000 windows, which make it the best lighted building of its kind in the world. Besides the reading room, there are a lecture hall, copyright record rooms, a large art gallery, a map room, etc. The whole library could be made to accommodate 6,000,000 volumes. In 1900 it contained nearly 1,000,000 books, exclusive of pamphlets, and the accretions are from 10,000 to 15,000 volumes each year.

The United States Treasury building is 1¼ mile W. of the Capitol. It is constructed of granite in the Ionic style, and cost $6,000,000. It is three stories high and 468 feet long by 264 wide. An Ionic colonnade modeled after the Temple of Minerva in Athens, is built on the E. front. On the W. front is a magnificent central entrance with eight colossal monolithic columns. There are in all about 200 rooms including the cash room, which is finished with rich marble and occupies two stories; the gold room, containing millions of dollars in gold coin; the Redemption Division; counterfeit room, etc. All of the United States notes, bonds, etc., are made here.

The building of the State, War, and Navy Departments is one of the largest public edifices in Washington. It is built of granite in the Roman Doric style, is four stories high, 567 feet long by 342 feet wide, covers 4½ acres, and cost $11,000,000. In the N. and E. wings are the War and

Navy Departments; in the S. portion is the State Department. The building contains in all 566 rooms, including the Hall of the Secretary of State, the Ambassador's Room, and the library with 60,000 volumes. In the latter apartment the Declaration of Independence is preserved.

The building of the Patent Office, also known as the Department of the Interior, is located in the central part of the city. It is 453 feet long by 351 feet wide, and is constructed of granite, marble, and freestone, in the Doric style. The main entrance faces F street, and is reached by a broad stairway of granite steps. The portico has 16 enormous Doric columns supporting a classic pediment. The building contains besides offices and other rooms the model room, in which there are great numbers of models, representing every department of mechanical art. The length of the floor in the latter room is 1,350 feet, or over ¼ of a mile. The offices of the Secretary of the Interior, of the Commissioner of Patents, and of the Indian Bureau are on the second floor.

The building of the Land Office, formerly occupied by the Postoffice Department, and costing $1,700,000, is of white marble in the Italian or modified Corinthian style, and is 300 feet long by 204 feet wide. It is three stories high and on the 8th street side has sculptures illustrating the telegraph and railroad.

The Pension building is constructed in the Renaissance style. It borders on Judiciary square, covers 80,000 square feet, is 75 feet high, and 400 feet long by 200 feet wide. On the exterior and on a level with the second floor is a notable band of sculpture in terra-cotta, 3 feet in height, and, 1,200 feet in length. It represents an army in campaign, supported by sailors and boats of the navy.

The Smithsonian Institution is a magnificent structure, erected of red sandstone in the Romanesque style. It is 477 feet long by 150 feet wide and has 9 towers from 75 to 150 feet in height. It was established by James Smithson. The remaining noteworthy buildings include the Bureau of Education, Department of Agriculture, Army Medical Museum and Library, building of the Commission of Fish and Fisheries, the United States Naval Observatory, Executive Mansion or "White House," a National Soldiers' Home, etc. The buildings of note not belonging to the government include the Corcoran Gallery of Art, the Masonic Temple, Odd Fellows' Hall, "Evening Star" building, the "Baltimore Sun" building, Washington Market, the court house, New Willard, Raleigh, Shoreham, Arlington, and Gordon hotels, and the Cosmos, Army and Navy, Washington, and Metropolitan clubs.

Monuments.— These include the Washington Monument, the Naval Monument, in honor of the officers, sailors and marines who were killed in the Civil War, the Lafayette Monument, with statues of Lafayette, Rochambeau D'Estaing, De Grasse, and Duportail, statues of Washington, Franklin, Webster, two of Lincoln, General Rawlins, Admiral Farragut, Martin Luther, Admiral Dupont, President Garfield, and Chief-Justice Marshall; and equestrian statues of Gen. Winfield Scott, Nathanael Greene, George H. Thomas, W. S. Hancock, John B. McPherson, and Andrew Jackson.

Banks.— On Sept. 30, 1901, there were 11 National banks in operation, having a combined capital of $2,775,000; and a surplus fund of $1,603,460. The exchanges at the United States clearing house in the year ending Sept. 30, 1901, aggregated $138,260,424, an increase over the preceding year of $6,731,523.

Education.— The city has 125 buildings used for school purposes. At the close of the school year 1898–1899 the children of school age numbered 72,000; the enrollment in public day schools was 45,560; and the average daily attendance was 31,220. There were 1,191 teachers, and public school property of an estimated value of $5,000,000. The white and negro pupils are provided with separate schools. The institutions for higher education are the Columbian University (Bapt.), Howard University (non-sect.), Gallaudet College (non-sect.), Georgetown University (R. C.), the Catholic University of America, Gonzaga College (R. C.), American University (M. E.), National University Law and Medical Schools.

Churches and Charitable Institutions.— There are about 225 churches in Washington, representing all of the principal denominations, and many of the smaller ones. The charitable institutions include the Columbia Institution for the Deaf and Dumb, National Deaf-Mute College (the only college in the world for deaf-mutes), Government Asylum for the Insane, Providence Hospital, National Homœopathic Hospital, Garfield Hospital, Emergency Hospital, Columbia Hospital for Women, the Louise Home, Reform School for Boys, Reform School for Girls, Industrial Home School, Washington Orphan Asylum, House of the Good Shepherd, the Children's Hospital, St. Ann's, St. Vincent's, and St. Joseph's Orphan Asylums, Home for the Aged, etc.

Finances.— On July 1, 1878, the duties of the Sinking Fund Commissioners of the District of Columbia were transferred to the Treasurer of the United States. Since that date an annual appropriation has been made by Congress sufficient not only to pay the interest on the outstanding bonds, but also, it is believed sufficient to liquidate the whole debt of the District by 1924, in which year the 3.65 per cent. loan matures. On April 1, 1901, the total funded debt of the city was $15,075,600. In 1900 the assessed valuations were, real estate, $179,351,811; personal property, $11,497,933; total, $191,049,744; tax rate, $15.00 per $1,000.

History.— It cost the Federal Congress a long and bitter wrangle to decide where the capital should be; and the decision was made at last by a political "bargain." Sectional jealousies were strong, and members of Congress from New England and from New York were afraid that those from the South might gain undue advantage over them. So stubborn grew the contest that it was feared the republic, as yet none too strongly welded together, would be shattered before a settlement could be made, and but for the political sagacity of Alexander Hamilton there might have been grave danger.

The Southern members, eagerly seconding Washington's fondly cherished desire, had asked that the seat of the Federal government be established on the banks of the Potomac; and when Congress refused this request their anger had rivaled the anger of the Northern men at the opposition of the South to Federal assumption of State debts incurred during the Revolution. Might it not be, Hamilton asked Jefferson, at a chance meeting in front of the President's house in Philadelphia, that the Southern men would agree to vote for the assumption of the State debts if the Northern men would support a bill for a capital on the Potomac, and would not the Secretary of State exert his good offices to bring about such result? The suggestion came as if on the thought of the moment; but it was so earnestly and eloquently put forward by Hamilton that Jefferson declared that "though a stranger to the whole subject," he would be glad to lend what aid he could. With his powerful aid the assumption bill secured the sanction of Congress.

The site of the present city, covering the lower portion of the district, was selected by Washington in January, 1791, but it had been admired by him many years before. When a boy he saw it while riding over the country on horseback, and he spoke of it when as a young man he camped with Braddock on the hill where the naval observatory now stands.

Washington, always more of a merchant and engineer than artist, had thoughts of a great commercial city there, with the navigable Potomac reaching to the sea to help it in the race for supremacy; and it was with more than his usual zeal and hopefulness that in the early spring of 1791 he set about planning the future seat of government. The private owners of the land proved a source of vexation and of some delay. Many of these were the descendants of a little band of Scotch and Irish who had settled on the land 100 years before, and had inherited from their fathers ability to drive a hard bargain.

Aged David Burns, a justice of the peace and a tobacco planter in a small way, proved the most stubborn and greedy of all. Even Washington was at first unable to do anything with "obstinate Mr. Burns," who did not want a capital at his front door and did not care whether or not the seat

of government came to the banks of the Potomac. Washington argued with him for several days, explaining to him the advantages he was resisting; to all of which, so the tradition runs, Burns made reply:

"I suppose you think people here are going to take every grist that comes from you as pure grain; but what would you have been if you had not married the widow Custis?"

Burns at last capitulated, and transferred his 600 acres which he did not wish to see spoiled for a good farm to make a poor capital, on the same terms that had been made with the other owners of the site — the government to have one lot and the original owner one lot alternately, the latter being also paid $125 per acre for such part of his land as might be taken for public use. Burns stipulated that the modest house in which he lived should not be interfered with in the laying out of the city; and since this condition was agreed to by Washington, Burns' cottage stood till a few years ago, one of the historical curiosities of the capital.

After David Burns, the most considerable owners of the land taken for the federal city were Samuel Davidson, Notley Young and David Carroll, the last named one of the three commissioners selected by Washington to have entire charge of the surveying and laying out of the district and the erection of the necessary public buildings. The other commissioners were Thomas Johnson of Maryland and David Stuart of Virginia; and on April 15, 1791, with impressive Masonic ceremony and in the presence of a goodly assemblage, they laid the first boundary stone of the district at Jones' Point, on the Virginia side of the Potomac. Early in the following September, the commissioners decided to call the federal district the Territory of Columbia — a little changed some years later to the District of Columbia; and the city to be established on the river bank the City of Washington — this without knowledge of the President, but with the common consent of Congress and the people.

Meanwhile Maj. Pierre Charles L'Enfant had been chosen by Washington to draw the plan of "the new Federal town." L'Enfant, a Frenchman, and a kinsman of D'Estaing, was a skilled military engineer who had come to America in April, 1777, in the train of Lafayette. He devoted the spring and summer of 1791 to elaborating his plans for the projected city. One point he quickly settled — he would not plan for 13 States and 3,000,000 of people, but for a republic of 50 States and 500,000,000 people; not for a single century, but for 1,000 years. Dominated by this thought, he builded better and wiser than any one in his lifetime was willing to admit; for the chief men of his day, meagerly educated and reared in the practice of the strictest private economy, were provincial in their ideas of art and government expenditure.

Jefferson was almost the only man then conspicuous in public life who had had the advantages of extensive foreign travel; and even Jefferson wished the city laid out in the regularity of squares, with all the streets intersecting at right angles, as in Philadelphia, and unfortunately, in most other American cities. L'Enfant made the regular chess-board squares as Jefferson wished, but he put in so many avenues running at acute angles that the monotonous effect was happily destroyed, and the opportunity was presented for making the capital the magnificent city it has since become.

The States of Maryland and Virginia, prompted by the location of the federal capital within their borders, voted $192,000 to the United States to aid in the erection of the projected public buildings; and in March, 1792, soon after the completion of the survey of the city, the commissioners advertised for designs for the Capitol and for "the President's house," offering in each instance a premium of $500 and a building lot to the author of the accepted design. Among the submitted designs for the executive mansion was one by James Hoban, a young architect of Charleston, S. C. This design, which followed that of the palace of the Duke of Leinster in Dublin, being approved, Hoban was awarded the premium, and engaged at a salary of 100 guineas per year to superintend the construction of the mansion, which was soon called the White House.

For the Capitol 16 designs were submitted by as many architects; but all, after careful examination, were counted unworthy of serious consideration. Soon, however, Stephen L. Hallett, a French architect residing in New York, sent to the commissioners a sketch of a design which met with favor, and he was invited to perfect it. Hallett had not completed his labors when Dr. William Thornton, an Englishman, who had lately taken up his residence in America, submitted a design to Washington and Jefferson which so pleased them that the President requested its adoption, suggesting that as Thornton had no practical knowledge of architecture, the execution of his design be intrusted to Hallett. Thornton's design thereupon was accepted by the commissioners, and Hallett was appointed supervising architect with a salary of $400 per year. The corner stone of what was to be the N. wing of the Capitol was laid on September 18, 1792, when Washington delivered an oration and the Grand Master of the Maryland Free Masons an appropriate address. "After a ceremony," to quote a contemporary account of the affair, "the assemblage retired to an extensive booth, where they enjoyed a barbecue feast."

Ill-timed and unseemly bickerings between architect and commissioner, the opposition of L'Enfant to raising funds by a public sale of lots, and many such difficulties delayed the completion of the N. wing till 1800; but even these were not the only obstacles with which the builders of the federal city were compelled to contend. At the first sale of lots the hurtful rumor was industriously spread that Congress would never remove to the Potomac, but would remain in Philadelphia. In 1792 Washington wrote to the commissioners that unless greater activity prevailed, their whole previous labor might be lost; and later he was obliged to make residence on the spot compulsory with them. Most serious and embarrassing of all was the ever present need of money. It had been hoped that before the sums subscribed by Virginia and Maryland were expended, the sales of lots would supply the balance needed to complete the public buildings. This expectation was only partly realized — many of the early contracts for the sale of lots were afterward repudiated,— and before the walls of the Capitol and the White House had reached the roof line, the commissioners were obliged in 1796 to ask Congress for an appropriation of money. Congress responded to this request by authorizing the commissioners to negotiate a loan of $300,000. This loan was guaranteed by the government, but the money was not to be had on the terms proposed. After some delay, the State of Maryland, at Washington's personal request, took two-thirds of the loan, stipulating that the commissioners who were all men of means, should add their individual guarantee to that of Congress — a startling indication of the government's poor credit. In 1798 Congress, again appealed to by the commissioners, voted an appropriation of $100,000, and in the following year the State of Maryland lent them half that sum, requiring, as before, private security for its repayment.

As a result of all these efforts, work on the Capitol and the White House made fair progress, and two other public buildings were begun and pushed to completion. These were erected at the corners of the 20-acre plot set down on L'Enfant's design as "the President's grounds." One, known as the Treasury Department building, occupied a portion of the site of the present Treasury building. The War Office, as the other building was called, occupied the site of the central portion of the present State, War, and Navy building. This latter building, enlarged by the addition of a third story and a wing, was known in later years as the Navy Department building, being removed in 1871 to make room for the new building.

When Washington last beheld the city which bears his name, shortly before his death in 1799, it was a straggling settlement in the woods, almost wholly devoid of streets, with 30 or 40 residences,— most of these small and uncomfortable,— and an unfinished Capitol and President's house. Indeed, Washington long remained a sparsely built, unsightly city and a comfortless place of residence. For more than a generation its growth in population was less than 600 a year, a rate of in-

crease that would now put to shame almost any village in the land; and so late as 1840 De Bacourt, the French minister, could write that Washington was "neither a city, nor a village, nor the country," but "a building-yard placed in a desolate spot, wherein living is unbearable."

All this was changed by the struggle for the Union, which doubled the population of Washington and brought in freedom and Northern enterprise, but more important still, by a thousand moving and glorious associations, endeared the capital to the people of the whole country. Then came its remaking by Shepherd and his associates. Now it is a truly imperial city, and the judgment of Washington and the genius of L'Enfant are vindicated.

Washington, University of, a coeducational non-sectarian institution in Seattle, Wash.; founded, 1862.

Washington, Booker Taliaferro, an American educator; born a slave in Hale's Ford, Va., about 1859. After the Civil War he removed to West Virginia, where he worked in the mines, attending school in the winter. In 1875 he was graduated with honors at the Hampton Institute, Va.; was a teacher there till in 1881, when he was elected by the State authorities of Alabama principal of the Tuskegee Normal and Industrial Institute, which he organized and built up. He organized the National Negro Business League at Boston, Mass., in 1900. He is the author of educational works.

Washington, Bushrod, an American jurist; born in Westmoreland co., Va., in 1762; was nephew of George Washington, and became heir to his papers and library; was a member of the Virginia House of Delegates, and of the Virginia ratifying convention in 1788; associate justice of the United States Supreme Court in 1798–1829. He died in Philadelphia, Pa., in 1829. His nephew, Augustine Washington, came into possession of the Washington residence, of Mount Vernon. He died in 1832.

Washington, George, the greatest of the world's great men, and first President of the United States; born of English stock in Westmoreland co., Va., Feb. 22, 1732. His father died early, but his mother, Mary Ball, gave him an admirable training, which was continued later by his elder half-brother, Augustine. Of actual schooling he had little, save such as sufficed to make him a practical surveyor. He spelt badly, but was able to do accounts well; he wrote poor verses, but was careful to copy out 50 odd "rules of behavior"; he had as little of the true literary afflatus as any youth of genius could well have, but he tamed the wildest horses and dominated the most unruly of his schoolmates. In short, he was a young Virginian Cyrus, riding well, shooting well, and telling the truth. But if it was fortunate for his country that he escaped becoming an epic poet, it was equally fortunate that he gave up the idea of entering the English service as a midshipman on account of a dutiful regard for his mother's wishes. One can contemplate with pleasure the picture he presents as a 16-year-old explorer, surveying the lands of Lord Fairfax amid the wild passes of the Alleghenies. The youth who so bravely fronted all "moving accidents by flood and field," who gained a reputation for sobriety and prudence both with the savage tribes he was forced to encounter and the official circles of Williamsburg, was doing precisely the work best fitted to prepare him for the higher labors of his manhood.

He rose rapidly, and in three years was made adjutant-general of militia in one of the border districts. But he was soon called away to accompany his invalid brother Lawrence on a voyage to the West Indies. This was destined to be his only experience of foreign travel; but he was by nature little capable of being tainted by provincialism. Returning to Virginia, he found his military charge renewed, and was given speedy opportunity for active service. He was dispatched by Governor Dinwiddie in the fall of 1753 on a mission to the French invaders of the Ohio region — a dangerous task, which others had declined, but which he accepted with alacrity. He braved the rigor of the season and the peril of the long and almost unknown way, and in about three months' time was back at Williamsburg with the French answer. Neither savages nor treacherous guides, nor ice-gorged rivers could prevail against so bold a heart or so keen an eye; nor could flattery at

home undermine a nature so well balanced, a modesty so innate and pure. He was at once put in command of the temporary militia of the colony, and was subsequently made lieutenant-colonel of the augmented forces. His superior officer soon died, however, and he was left in full charge of the expedition to the Ohio. He acquitted himself admirably in the fight at Great Meadows, but was forced to capitulate shortly after, the result being honorable, and on the whole fortunate, considering the rashness of the enterprise.

The death of the French officer Jumonville in a preliminary skirmish led to a curious sort of reputation for the young colonial soldier, the future liberator of America being denounced as an assassin because of an absurd mistake by which the leader of a scouting party was converted into the bearer of a flag of truce. But while French censure could not hurt Washington, Dinwiddie's conduct with regard to the reorganization of the Virginian troops did; and after a manly remonstrance he resigned, showing in this matter, as well as in his subsequent refusal to submit to be outranked by officers holding royal commissions, that perfectly poised dignity of character for which he is probably more noted than any other great man in history. When Braddock, however, offered Washington a post as aide-de-camp which he could accept with honor, he was glad enough to march against the foe and to tender advice which no man in America was better fitted to give and no commanding officer less likely to profit by. The prudence of Washington as a counselor, as well as his intrepid conduct at Fort Duquesne, taught all discerning observers that he had in him the stuff of which not only good border soldiers but also great generals are made; and one of these observers, the eloquent preacher Samuel Davies, was wise enough to predict that "that heroic youth, Colonel Washington," would one day render his country some distinguished service. For a time his services were chiefly directed toward securing the safety of the Virginia borders, and he found leisure to make a visit to Boston on military business, as well as to fall in love.

His marriage with the widow, Martha Custis, took place in January, 1759, and those who are wont to accuse Washington of lacking sentiment may be advised to study carefully all that can be learned about the romantic affair. Military life seemed over for him, and he settled down as a gentleman farmer, serving his colony in the House of Burgesses, where he was formally thanked for his exertions in the public behalf, but was too modest to be able to reply; looking after the interests of his parishes in the local vestries, dispensing hospitality in true Virginian style, and superintending his estates in a thrifty fashion peculiarly his own; and last, but not least, keeping up his spirits and his health by frequent indulgence in the manly sport of fox hunting. At the age of 30 he was plainly the greatest soldier in the colonies, the man to whom all eyes would turn should any public danger impend; and if no danger came, he would nevertheless be one of the wealthiest and most prominent citizens of the "Ancient Dominion." He had thus little to wish for except children. But if children did not come, his life was destined to be filled with a higher love and more absorbing cares. He was to be the Father of his Country. From his seat at Mount Vernon, which he had been progressive enough to link with the rest of the world by a private wharf, he watched the clouds gathering in the political heavens, and he showed a statesmanly prescience in being almost the first American to perceive that a complete break with England was necessary to the peace and prosperity of the colonies.

He was no revolutionist, but neither was he afraid to trust the conclusions of his own mind; and if he was no orator, he was at least not the man to mince his words. Cæsar himself did not more thoroughly see the necessity for one-man rule at Rome than Washington saw the necessity for public independence in America. He declared at Williamsburg, in 1774, that he was ready to raise 1,000 men, support them at his own expense, and march them to the relief of Boston. A few weeks later he rode on horseback with Patrick Henry and Edmund Pendleton to attend the 1st Continental Congress in Philadelphia. He was, by the confession of Henry himself, easily the greatest man among the delegates. The 2d

Congress saw him again in attendance, and ready to give his life for his country. But though he could brave death he could not face praise, and he left the chamber when John Adams nominated him to be Commander-in-Chief of the Continental forces. The next day he accepted the post, while protesting his own unworthiness and refusing to accept any pay beyond a reimbursement of his expenses. No Roman of old ever came forward to save the State with purer intentions or with more favorable auguries of success. Though to weaker spirits the prospect was appalling, strong men drew happy omens, not from the flight of birds and the entrails of victims, but from the justice of the common cause and the character of Washington. Nor did they mistake, nor do we now mistake, when we assign the success of the Revolution to these two causes.

As one retraces the weary years that elapsed between his taking command (July 3, 1775) and his laying down his office (Dec. 23, 1783), it is perceived clearly that under Providence the issue of the mighty struggle depended on him. Had he lost heart at the supineness and bickerings of the people at large, had he grown weary of correcting the blunders of incapable subordinates, had he disdained to control a fatuous Congress, or to put down a wretched cabal among his own officers, had his nerves given way at the sight of the sufferings at Valley Forge; had his spirit wavered at frequent defeat — in short, had he been anything but the noble patriot and great commander that he was, the course of history might have been changed, and the United States might have died in its birth and forever, or come into existence again years later and under far different auspices. But he was Washington — the noblest figure that any people has ever set in the forefront of its life and history. While he lived and fought on with his ragged troops, the Union was maintained in spite of all State squabbles; while he was in command, any alliance made with France must be one which America could accept with dignity; while his brave heart beat, repulse meant only fresh resolve, and hardship and suffering only more splendid rewards of triumph.

It is idle to deny that he was the soul of the Revolution, and it is equally idle to ask whether or not he was a great general. Whether he was, technically speaking, a master of the art of war, students of that art may decide; though it is as well to remind them that Frederick the Great praised his Trenton campaign as a masterpiece of strategy. But that he is worthy to rank with the supreme commanders of history, no man of sound judgment and capable imagination will deny. Not that he always won his battles, or won them in the most approved way; not that he flamed like a comet in the heavens, threatening desolation to the nations; not that he moved across the world's stage like a Karl or a Timor. His career does not enthrall us as does that of Alexander; it has not such tragic elements of inspiration and pathos as has that of Hannibal; it does not leave us breathless with admiration as does that of Cæsar; it does not exalt us and horrify us as does that of Napoleon. But it does give us that supreme sense of satisfaction which flows from the perception of harmony and proportion; it does thrill us with the intense and elevated joy which must ever follow the spectacle of great powers consciously working for the successful accomplishment of divine justice; it does fascinate us by means of those elements of sublimity and pathos that are never absent from the contemplation of a lonely but serene elevation above the common tide of humanity.

Nor are concrete evidences of his greatness as a soldier lacking. We remember the Berserker rashness and daring displayed at Fort Duquesne and at Monmouth, and we recall William the Conqueror at Hastings. We watch him at the crossing of the Delaware and at Valley Forge, and we recall Hannibal on the Alps. We observe him turning a ragged body of suspicious New Englanders into trained soldiers ready to die for him, and we recall no less a man than Cæsar. We see him put down the Conway cabal and reduce Congress to his bidding, and we recall Marlborough. We see him quell Lee with his fiery eye and biting words, and we somehow recall Cromwell. We watch him in his tent, brooding over the treason of Arnold and weighing the claims of mercy and justice in the case of Andre, and we

recall only his own imperial self. Yes, Washington the general is a supremely great man, and those who deny the fact do so because they have not been able to survey his career from the proper point of view. It is hardly an exaggeration to say that to the trained student his greatness is even implicit in his proclamations to his soldiers from first to last.

He was no master of style, but certainly for directness and vigor of phrase, for patriotic purpose, for clear-sighted content, his circular letter to the governors of all the States (June 8, 1783) is unsurpassed among the political documents of the world. His entire correspondence from the time he retired from command of the army till he reëntered the service of his country as its first President, is a monument to his modesty, to his magnanimity, to his prudence, and his wisdom. Frederick the Great himself, resting from war that he might restore order and peace to the people, is no grander figure than this victorious American general, watching from Mount Vernon the fortunes of his country, and lending the weight of his counsel and his example to the sacred cause of union. He served this cause still further by presiding over the convention in 1787, and 1789 he entered on the presidency of the nation, assuming a new role for which he was admirably fitted and in which he was destined to achieve magnificent success.

To many persons Washington the statesman is harder to realize than Washington the general. This is probably a result of political partisanship. Men look back to those two great founders of parties, Jefferson and Hamilton, and forget the chief who dominated and controlled them. Washington really made Hamilton and he always used Jefferson when he needed him; it was thus perhaps in accordance with weak human nature that Hamilton should have been ungrateful to his memory, while Jefferson was impelled to pay him a tribute — noble in spite of its jealous touches. No fact in history is more clearly established than that Washington was the chief figure in his own administrations. He came to the chair of State with the best equipment possible, and he would have left it vacant forever had it been requisite to fill it with a successor who should be his equal. He had not the analytic mind of Hamilton nor the philosophic grasp of Jefferson, but his training for the duties of a statesman had been superior to theirs. He came of a race used to act and to command. From an early age he had to rely on himself, and so he attained to that self discipline which is indispensable to a political leader. Circumstances determined that he should learn the lessons of life from men rather than from books; thus he stood in no danger of becoming a doctrinaire. His early experiences as a surveyor, a backwoodsman and a soldier gave him a true sympathy with democracy, and hence enabled him to understand the only rational principle on which a stable government could be founded in America; while his good birth and training, and his position as a planter aristocrat, put him in touch with that English past from which it would have been impossible for the new nation to break entirely. Add to all this the fact that his nature was essentially straightforward and manly, and that he had not a conspicuous weakness, that his mind was clear and flexible, and if not quick, certainly not slow, and we surely have as well equipped a statesman as the world's history can furnish.

Compared with him, how the other figures of the period, even the greatest shrink and diminish! The spiritual dignity of his altruism sits not on Franklin; his breadth and catholic charity of judgment belong neither to Hamilton nor to Jefferson: and who would think of comparing with him the Madisons, the Jays, the Morrises, the Ameses, the Wilsons of the time, able and patriotic men though they all were? Dignity, steadfastness, uprightness, serenity, benignity, wisdom — these are the characteristics of Washington's statesmanship, whether we regard his firm policy of resistance to the insolence of revolutionary France, or his refusal to plunge his country into a second war with England, or his cordial acceptance of the financial measures of Hamilton, or his steady accentuation of the national principle, or his noble efforts to reconcile his cabinet, or his strong but humane policy toward the Indians, or his prompt crushing of the Whisky Re-

bellion, or finally, his progressive views on the subjects of slavery and national education, and his prophetic comprehension of the importance of the West. A perfect equipoise of powers which taken separately would not be supreme, appears to be the characteristic mark of his rare variety of genius, which among men of action is illustrated in Alfred the Great, and among men of letters, in Sophocles. It is to this class that Washington belongs — to the class of men whose balance of faculties is so serenely perfect as to constitute genius of perhaps the highest order. What shall we say of such a man, save that he was as great in peace as he was in war; that he was veritably the Father of his Country?

Washington became Commander-in-Chief of the American army on June 15, 1775, and for several years his history was that of the Revolutionary War, elsewhere recorded. Suffice it here to say that he created the American army; fought the English generals, Howe, Clinton, Burgoyne, and Cornwallis, with various results; till, finally, he surrounded Cornwallis at Yorktown, and compelled him to capitulate. To his intrepidity, prudence, and moderation, the United States is almost wholly indebted for the independence which was secured to it by the treaty of peace concluded in 1783. Soon after this event, Washington resigned his commission to Congress, and in his address on that occasion, the magnanimity of the hero was blended with the wisdom of the philosopher. He returned to his seat at Mount Vernon and, like Cincinnatus of old, he returned to his former and favorite pursuits of agriculture. The federation of the States having failed to afford an efficient government, Washington proposed conventions for commercial purposes, which led to the Convention of 1787, of which he was a member, which founded the present Federal Constitution, considered by him as the only security against anarchy and civil war. Under this Constitution he was chosen President, and inaugurated in New York, April 30, 1789. His government was marked by that well-tempered prudence which distinguished all his conduct. Having been reëlected as President, he held office till 1797, when he again retired to his estate at Mount Vernon. In 1797, when there arose a difficulty with France, threatening hostilities, he was appointed Lieutenant-General and Commander-in-Chief, a post which he accepted with extreme reluctance, but with that spirit of obedience to the call of duty which had been the governing rule of his life. On Dec. 12, 1799, he was exposed in the saddle, for several hours, to cold and snow, and attacked with acute laryngitis, for which he was repeatedly and largely bled, but sank rapidly, and died, Dec. 14.

Washington was childless, but most happy in his domestic relations. He was mourned even by his enemies, and deserved the record: "First in peace, first in war, and first in the hearts of his countrymen." The following estimate of the character and intellect of the great American patriot is from President Jefferson:

"His mind was great and powerful, without being of the very first order; his penetration strong, though not so acute as that of a Newton, Bacon, or Locke; and, so far as he saw, no judgment was ever sounder. It was slow in operation, being little aided by invention or imagination, but sure in conclusion. Hence the common remark of his officers of the advantages he derived from councils of war, where, hearing all suggestions, he selected whatever was best; and certainly no general ever planned his battles more judiciously; but, if deranged during the course of action, if any member of his plan was disarranged by sudden circumstances, he was slow in readjustment. The consequence was, that he often failed in the field, but rarely against an enemy in station, as at Boston and York. He was incapable of fear, meeting personal danger with the calmest unconcern. Perhaps the strongest feature in his character was prudence, never acting till every circumstance, every consideration, was maturely weighed; refraining, if he saw a doubt; but, when once decided, going through with his purpose, whatever obstacles opposed. His integrity was the most pure, his justice the most inflexible, I have ever known; no motives of interest or consanguinity, of friendship or hatred, being able to bias his decision. He was, indeed, in every sense of the word, a wise, a good, and a great man. His temper was natural-

ly irritable and high-toned; but reflection and resolution had obtained a firm and habitual ascendency over it. . . . . His person was fine, his stature exactly what one could wish. Though in the circle of his friends, where he might be unreserved with safety, he took a free share in conversation, his colloquial talents were not above mediocrity, possessing neither copiousness of ideas nor fluency of words. In public, when called on for a sudden opinion, he was unready, short, and embarrassed. Yet he wrote readily, rather diffusely, in an easy and correct style. He read little, and that only on the subjects of agriculture and English history."

Washington, Treaty of, a treaty between Great Britain and the United States, signed May 8, 1871. Under its terms the "Alabama" claims, the San Juan boundaries, and certain fisheries disputes were settled by arbitration.

Washington Agricultural College, an educational, non-sectarian institution in Pullman, Wash.; founded in 1892.

Washington and Jefferson College, an educational institution in Washington, Pa.; founded in 1802, under the auspices of the Presbyterian Church.

Washington and Lee University, an educational non-sectarian institution in Lexington, Va.; was founded in 1749 by the Rev. William Graham as an academy at Timber Ridge meeting house, afterward developed into Washington University, and finally received its present name in honor of General Robert E. Lee, who after the Civil War became its president. He is buried in the college chapel, where a noble recumbent statue in marble marks his resting place.

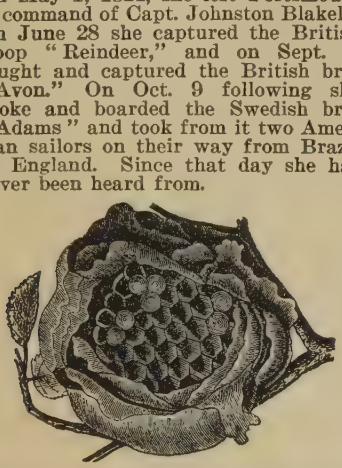
Washington Monument, a magnificent monument erected by the American people, in honor of George Washington. It stands in the Mall, a public park on the banks of the Potomac and Tiber creek, Washington, D. C. The corner stone was laid by President Polk, July 4, 1848, and Dec. 6, 1884, the cap stone was set in position. The foundations are 126½ feet square and 36 feet 8 inches deep. The base of the monument is 55 feet 1½ inches square, and the walls 15 feet ¼ inch thick. At the 500 foot mark, where the pyramidal top begins, the shaft is 34 feet 5½ inches square and the walls are 18 inches thick. The monument is made of blocks of marble two feet thick, and it is said there are over 18,000 of them. The height above the ground is 555 feet. The pyramidal top terminates in an aluminum tip, which is 9 inches high and weighs 100 ounces. The mean pressure of the monument is five tons per square foot, and the total weight, foundation and all, is nearly 81,000 tons. The door at the base, facing the capitol, is 8 feet wide and 16 feet high, and enters a room 25 feet square. An immense iron framework supports the machinery of the elevator, which is hoisted with steel wire ropes two inches thick. At one side begin the stairs, of which there are 50 flights, containing 18 steps each. Five hundred and twenty feet from the base there are eight windows, 18 x 24 inches, two on each face. The area at the base of the pyramidal top is 1,187¼ feet, space enough for a six-room house, each room to be 12 x 16 feet. The Washington monument is the highest monument in the world; total cost, $1,500,000.

Washington University, a co-educational, non-sectarian institution in St. Louis, Mo.; incorporated in 1853. It has been formed by the union of six schools started at different times: the undergraduate department, which includes the college; the St. Louis Law School; the O'Fallon Polytechnic School; the Henry Shaw School of Botany; the School of Fine Arts; the St. Louis Medical College; and the Missouri Dental College. To the university have been attached three secondary schools: The Smith Academy for Boys; the Mary Institute for Girls; and the manual training school.

Wasp, the name applied to a number of insects, belonging chiefly to the family vespidæ. They live in societies composed of females, males, and neuters, or workers. The females and neuters are armed with a sting. Their nests are usually of a material resembling brown paper, but some species build them of common clay.

Wasp, The, an American warship, built in Washington, D. C., in 1806, and commanded by Capt. Jacob Jones.

On Oct 18, 1812, she captured the British brig "Frolic," and was herself captured the same day by the British vessel "Poictiers." Also an American sloop-of-war, 22 guns and 160 men; built at Newburyport in 1814. On May 1, 1814, she left Portsmouth in command of Capt. Johnston Blakely. On June 28 she captured the British sloop "Reindeer," and on Sept. 1, fought and captured the British brig "Avon." On Oct. 9 following she spoke and boarded the Swedish brig "Adams" and took from it two American sailors on their way from Brazil to England. Since that day she has never been heard from.



NEST OF COMMON WASP SEEN FROM BELOW.

Wasson, David Atwood, an American clergyman, poet, and essayist; born in Brooksville, Me., May 14, 1823; was graduated at the Bangor Theological Seminary; accepted a pastorate in Groveland, Mass., but was soon dismissed for the liberality of his views. He then devoted himself to literature, writing chiefly for periodicals. He was called to Boston in 1865, but preached less than a year, owing to ill-health. He died in West Medford, Mass., Jan. 21, 1887.

Waste Lands, according to the general use of the term, uncultivated and unprofitable tracts in populous and cultivated countries. The term waste lands is not employed with reference to land not reduced to cultivation in countries only partially settled.

Watch, the act or state of watching; a keeping awake for the purpose of attending, guarding, preserving, or the like; attendance without sleep; vigilance, vigil. A person or number of persons set for a guard over the persons, property, or interests of others; a watchman or body of watchmen; a sentry, a sentinel, a guard. Also, the period of time during which one person, or a body of persons, watch or stand sentinel, or the time from one relief of sentinels to another; hence, applied to a division of the night when the precautionary setting of a watch is more generally necessary.

Also any contrivance by which the progress of time is perceived and measured; as, a timekeeper actuated by a spring, and capable of being carried on the person. The essential difference between a clock and a watch has been defined to be that the latter will run in any position, but the former in a vertical position only. Since the invention of the cheap spring clock this definition must be abandoned. Another characteristic which was formerly distinguishing was that the watch escapement was always controlled by a balance wheel and spring, while the clock escapement was generally governed by a pendulum. Watches are said to have been invented at Nuremberg, about the end of the 15th or beginning of the 16th century. America now makes the best watches.

As a nautical term, the period of time occupied by each part of a ship's crew alternately while on duty. This period is one of four hours, the reckoning beginning at noon or midnight. But in order to prevent the constant falling of the same watch to the same portion of the crew, the time between 4 P. M. and 8 P. M. is divided into two short watches of two hours each, technically known as dog watches.

Water, a clear, colorless, transparent liquid, destitute of taste and smell, and possessing a neutral reaction. It is one of the most important and most widely-distributed substances in nature, occurring universally in one or other of its three physical states = liquid, solid, or gaseous. As a liquid it constitutes the great mass of the oceans, rivers, and lakes, which cover nearly three-fourths of the earth's surface; in the solid state it exists permanently in the form of ice or snow in the polar regions; and as a vapor is a constituent of the aerial envelope of the earth, and the exhalations of volcanoes and boiling springs.

Water Beetles, beetles which live on or in the water. The Dytiscus, common in stagnant water, is olive-green above, and oval in shape. The respiratory organs of the perfect insect are not adapted to obtaining air from the water; it comes occasionally to the surface of the water for air, where it lies on its back, the openings

GREAT WATER BEETLE.

a, full-grown insect; *b*, larva.

of its air tubes in the last segment of the abdomen, being exposed.

Waterbury, a city in New Haven county, Conn.; at junction of the Naugatuck, Great Brook, and Mad rivers and on the New York, New Haven & Hartford railroad; 22 miles N. W. of New Haven; has been noted for more than a century for its varied metal-working industries, and latterly for its production of watches, clocks, brass, copper, and plated goods, lamps, and pins, hooks and eyes; contains a State armory, Masonic Temple, and a public library. Pop. (1910) 73,141.

Water-Color Painting, the most delicate of the graphic arts. It has had a large share in the modern prosperity of the fine arts, and of late has been practised by eminent artists in various countries, as the United States, Great Britain, France, Germany, and Austria. In the illumination of missals water colors were used mixed with the body white. Durer and certain of the German, Flemish, and Dutch artists were accustomed to outline drawings with a reed pen, and fill in those outlines with an auxiliary flat wash. Gradually the hard lines were replaced by touches with the brush, and the result was a monochrome in browns and grays, bistre or India ink. These again came to be tinted, and so suggested the full use of colors. Rembrandt often drew in brown, and added dashes of strong color; and Rubens produced something very like modern water-color drawings.

The modern art became emancipated from the old traditions by "gradual disuse of the general shadow tint, and imitation of the local color, not alone of the objects themselves, but of every modification resulting from light, dark, half-tint, or distance, a method which at once led to far greater truth and richness than could ever have been attained by merely passing color over the universal shadow tint." The stained drawing gradually gave way to the more perfect tinted drawing. But the tinted style predominated till 1790; and it may be said that the water colors of the 18th century were tinted monochromes. It was in the 19th century that Girton and Turner showed what scope and power there were in the art.

Water Colors, pigments prepared for the use of artists and others by mixing coloring substances in the state of fine powder with a soluble gum such as gum arabic. These are made up in the form of small cakes, which are rubbed down with water and applied with a brush to paper, ivory, and other materials. Moist water colors are made up with honey or glycerine as well as gum, and are prepared so as to be kept in small earthenware pans or metallic tubes. Dry cakes require to be rubbed down with water on a glazed earthenware palette or slab, but moist colors can be mixed with water for use by the friction of a brush, so that the japanned lid of the box which contains them serves for a palette. The latter are accordingly very convenient for sketching from nature.

Water Dog, a variety of the dog having a curly coat, long ears, a rounded head, and webbed toes. It seems to be allied to the poodle, but differs from the latter in its firmer set

and stouter body, and in its larger size. The water dog is highly intelligent, but less so than the retriever. It is usually of a greyish white varied with black and brown.

Water Dropwort, a genus of plants of the natural order Umbelliferæ. A number of species are natives of Great Britain, large perennial plants, with a strong and generally disagreeable aromatic smell, and compound or decomposed leaves. The common water dropwort and the hemlock water dropwort, or water hemlock, are both common in wet

HEMLOCK WATER DROPWORT.

places in Great Britain and throughout Europe, and both are narcotic acid poisons. The roots of the latter have some resemblance to parsnips, and hence fatal accidents have frequently occurred. The fine-leaved water dropwort, called water fennel by the Germans, is also common in ditches and ponds both in Great Britain and on the Continent. It is not so poisonous as the other species just named. It was at one time erroneously regarded as a specific against pulmonary consumption; but it has been advantageously employed in pulmonary complaints.

Water Flea, a popular name for minute aquatic Crustaceans such as daphnia, cypris, and cyclops. The common Daphnia pulex, abundant in fresh water, is a good representative. The body is enclosed in a bivalve shell; there is a large single eye; a parir of large antennæ are used as swimming organs. The daphnids are marvellously prolific, and for prolonged periods parthenogenetic. There is an interesting difference between the winter eggs which require fertilization and the summer eggs which do not. The females have a dorsal brood chamber between the shell and the back. In cypris also the shell is bi-

WATER FLEAS.
1, Cyclops communis; 2, Cypris unifasciata; 3, Daphnia pulex.

valve; there are five pairs of appendages on the head and two on the body; most of these are used in swimming or creeping. Among cyprids parthenogenesis again occurs, and in some species males have never been observed, while parthenogenetic development has been traced for as many as 40 successive generations. The females bear large egg sacs. In cyclops the body is more distinctly segmented and the shell is not bivalve; the head bears antennæ, mandibles, and maxillæ, and the first five segments of the thorax bear swimming appendages. Water fleas fed on microscopic plants and

animals and on organic debris, while they themselves — often occurring in countless swarms — form an important part of the food supply of certain fishes.

Water Gas, gas obtained by the decomposition of water. Water in the form of steam is passed over red-hot coke, resolving it into hydrogen and carbonic oxide, the oxygen being absorbed. The hydrogen and carbonic oxide are then passed through a retort, in which carbonaceous matter, such as resin, is undergoing decomposition, absorbing therefrom sufficient carbon to render it luminous when burned.

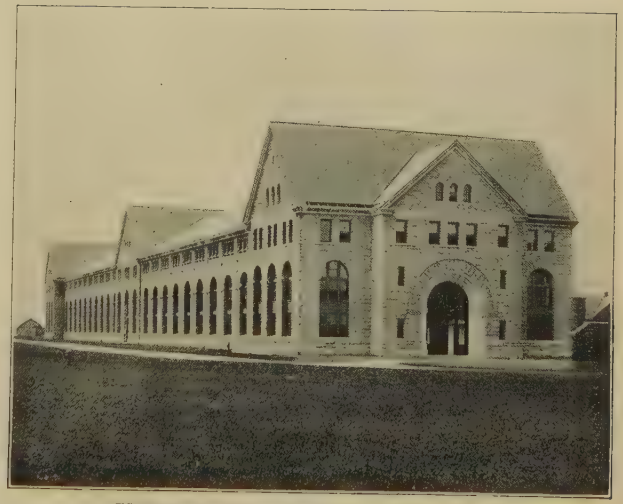
Water Hen, an aquatic bird of the rail or gallinule varieties. They frequent ponds covered with aquatic herbage, overgrown water-courses, and the banks of slow rivers, swimming and diving with facility, assisted by an expansion of the membrane along the sides of the toes.

Water Lily, an exogenous aquatic plant including eight genera, and all possessing submerged root stocks. They are found in all temperate climates, and attain great size in the tropics. The white water lily is the familiar flower of ponds and placid streams throughout North America, its large and chaste flowers claiming precedence for beauty among the indigenous flora. The lotus has similar flowers, but tinted with pink, and has strongly toothed floating leaves; it is the white lotus of the Nile. The blue lotus has fragrant blue flowers. Several species and numerous varieties are in cultivation as ornamental plants. The Victoria Regia is the name given in honor of Queen Victoria to the most magnificent genus of the order. There is only one species recognized by botanists, a native of the Amazonian region of South America, where it was first observed by the unfortunate botanical traveler Hænke, in 1801, and said to have been met with by the French naturalist D'Orbigny in 1827, but not made known to European horticulturists till after its discovery in British Guiana 10 years later. This noble water lily has floating leaves of a bright green above, and a deep purple or violet on the lower surface, measuring as much as 7½ feet in diameter, with a uniformly turned-up margin of about 3 inches, thus resembling huge shallow trays. The flowers, which are proportionately as large — some measuring 14 inches in diameter — are of all shades from white to pink, and are delightfully fragrant.

WHITE WATER LILY.

Waterloo, Battle of, an important battle won by the allied forces over Napoleon, near Waterloo, a Belgian village 11 miles S. of Brussels, June 18, 1815. The preliminary battles had been at Ligny, June 16 (when Napoleon had defeated the Prussians under Blucher), and at Quartre-Bras, on the same day (when the allies under Wellington compelled the French Marshal Ney to retire). At Waterloo the French numbered about 72,000. The allies (British, Dutch, and Germans), under Wellington, had about 67,000; the Prussians (about 50,000 more), under Blucher, came up in time to take part in the close of the battle, and in the pursuit. The battle began about 11 : 30 A. M. Briefly it may be said to have consisted of a series of brilliant but unsuccessful charges made by the French, and dogged resistance on the part of the British; in the evening the French Old Guard charged, but unavailingly; after which the allies advanced. The French lost about 35,000, and many prisoners; the allies about 22,000. Marshal Grouchy, though he defeated Blucher at Wavre, June 18, failed to prevent him from joining Wellington, and himself failed to come to Napoleon's aid, though but a few miles

EXTERIOR VIEW OF PLANT

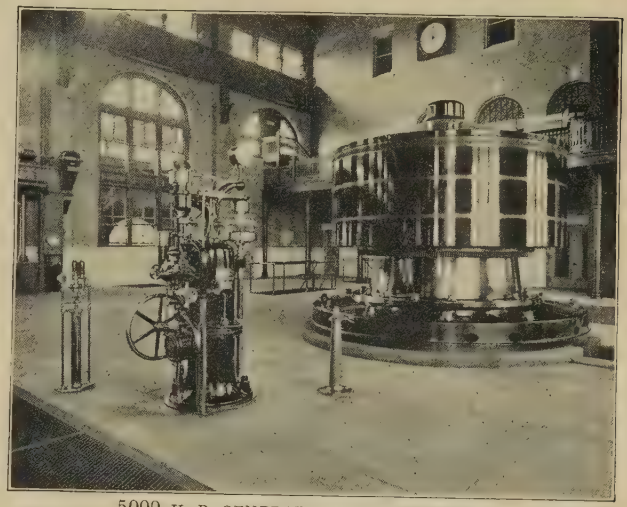


EXTERIOR VIEW OF POWER HOUSE NO. 2

INTERIOR VIEW OF POWER HOUSE NO. 1

INTERIOR VIEW OF POWER HOUSE NO. 2

INTAKE CANAL AT POWER HOUSE NO. 2



5000 H. P. GENERATOR AND GOVERNOR

NIAGARA FALLS POWER PLANT

distant. The rout of the French was complete, and the disaster final to Napoleon, the result being his deposition and exile to St. Helena.

Waterloo, city and capital of Black Hawk county, Ia.; on the Cedar river and the Illinois Central and other railroads; 53 miles N. W. of Cedar Rapids; has fine waterpower; is in a fertile grain section; manufactures gasoline engines, refrigerators, locomotives, paper, machinery, flour, and woolen goods; and has a Collegiate Institute, Conservatory of Music, and a School for Stammerers. Pop. (1910) 26,693.

Waterloo, Stanley, an American author; born in St. Clair co., Mich., May 21, 1846; was editor of St. Louis "Journal," and Chicago "Tribune;" later editor-in-chief of the Chicago "Mail" and other papers.

Water Melon, a favorite and delicious fruit cultivated in the United States, India, China, Japan, the Eastern Peninsula, Egypt, etc., for its juice, which is cool and refreshing, but somewhat insipid. It is the melon of Scripture.

Water Meter, a contrivance for measuring the amount of water received or discharged through an orifice.

Water Power, a general phrase applied to the various means by which the energy of moving water may be utilized. To make such a source of energy effectual, it is necessary and sufficient to have the water falling from a higher to a lower level. Such conditions more or less favorable exist in all streams, though in many cases the fall is so slight and the velocity of the water so small that practically no useful work can be obtained. Of the various machines by which the necessary transformation is usefully effected, the most common are what are known as water wheels, in their several forms of turbines, undershot wheels, breast wheels, and overshot wheels.

Waterproof Cloth, cloth rendered impervious to water. There are numerous processes for waterproof fabrics of all kinds. The earliest patent, that of Macintosh (1823), consisted in covering cloth with a paste obtained by dissolving caoutchouc in benzol or coal naphtha. In the treatment of cotton and linen cloth a small proportion of sulphur is generally added. A thin layer of this rubber solution is spread on the fabric by special machinery, after which the cloth is doubled, pressed, and finished in calenders, the waterproof layer being thus in the center of the finished material. Textiles thus manipulated become also impervious to air, and from a hygienic point of view unsuitable for prolonged personal wear. This led to the introduction of other solutions and methods of application intended to produce fabrics, which, while resisting rain, do not altogether obstruct ventilation. Consecutive dipping of cloths in soap and alum solutions, or in gelatine and gall solutions, or in a solution of acetate of lead and then in a solution of alumina, has been resorted to with more or less success. The substance called algin, obtained from the seaweed, has been strongly recommended for the same purpose. Another recent patent process consists in treating the fibers in the solution instead of the manufactured textile, and the fabric thus produced, while rain-resisting, offers the same ventilation as ordinary materials.

Water Rabbit, an American species, most abundant in the swampy tracts bordering on the Mississippi and its tributaries in the Southwestern States, whence it is also called the swamp hare. It is an excellent swimmer, and subsists chiefly on the roots of aquatic plants.

WATER RAIL.

Water Rail, a bird generally distributed over America and Europe, and fairly common, though not often seen, from its shy, retired habits. It frequents marshes and bogs, and

swims and dives well, but is bad on the wing. It is a delicious bird for the table.

Water Rattle, the diamond rattlesnake. It sometimes reaches eight feet in length; yellowish-brown with dark brown spots, belly yellowish, tail black or barred with black. Found in damp and shady places from North Carolina to Texas, and varieties of it range into California and Mexico. It is exceedingly poisonous.

Waters, Clara Erskine (Clement), an American author; born in St. Louis, Mo., Aug. 26, 1834. In 1883–1884 she made a tour round the world. The first of her many publications was the "Simple Story of the Orient."

Waterspout, a remarkable phenomenon occurring for the most part at sea, but occasionally on land, though generally in this latter case in the neighborhood of water. A waterspout at sea is usually formed in the following manner: A dense cloud projects from its center a body of vapor, in form something like a sugar loaf with the point downward. This cone is agitated by the wind till it assumes a spiral form, and gradually dips more and more toward the sea, where a second cone is formed having its point upward. The clouds above and the water below are violently agitated by the physical influences at work. Suddenly the descending and ascending cones of water or vapor meet in mid-air, and form one united pillar which moves onward vertically in calm weather, but obliquely to the horizon when acted on by the wind. The junction of the two cones is generally accompanied by an electric flash. After continuing in this form for a short time the waterspout bursts, in some cases with terrific violence, and to the destruction of anything in the vicinity. Many a ship has been overwhelmed in this manner, and sunk in a moment with all on board. In November, 1855, five vessels were destroyed by a waterspout in the harbor of Tunis. Waterspouts on land are cones or pillars of vapor descending from the clouds. Land waterspouts are usually very destructive in their effects. On Aug. 30, 1878, the town of Miskolcz, in Hungary, was destroyed by a waterspout with considerable loss of life. These phenomena are, however, more common in India than in Europe. One which occurred at Dum-Dum, near Calcutta, was ascertained to be 1,500 feet in height, and it deluged half a square mile of territory to a depth of six inches.

The cause of these phenomena has been assumed to be (1) electricity; (2) vortical motion; or (3) a combination of these causes. M. Weyher has, however, succeeded in producing them artificially, and his method shows that vortical motion is the great factor in the production of them.

Watertown, city and capital of Jefferson county, N. Y.; on the Black river and the Rome, Watertown & Ogdensburg railroad; 69 miles N. of Syracuse, 10 miles E. of Lake Ontario; is the metropolis of a large farming and dairying section; has abundant water-power from the river; manufactures paper, flour, steam engines, air-brakes, printing presses, and electrical apparatus; and contains a State armory, Flower Public Library, and Henry Keep Home for the Aged. Pop. (1910) 26,730.

Watervliet, a city in Albany county, N. Y.; on the Hudson river, the Erie canal, and the Delaware & Hudson railroad; opposite Troy; is especially noted as the site of a famous National arsenal and gun foundry; has also extensive car works, bell foundry, and manufactories of woolen goods, chains, architectural iron work, and collars and cuffs. Pop. (1910) 15,074.

Watkins, John Elfreth, an American scientist; born in Ben Lomond, Va., May 17, 1852; was graduated at Lafayette College in 1871; was mining engineer for the Delaware and Hudson Canal Company in 1871–1872. He was curator of the United States National Museum in 1877–1892, and was made superintendent and curator of its technological collections in 1895. His publications include "History of the Pennsylvania Railroad, 1846-1896"; "The Evolution of the Railway Passenger Car";

and many papers on the evolution of the telegraph, railroads, etc. Died 1903.

Watson, George Lennox, an English naval architect; born in Glasgow, Scotland, Oct. 30, 1851; received a collegiate education, learned the trade of shipbuilding; and in 1872 began business in Glasgow as a naval constructor. He became widely known in 1880 as the builder of the yacht "Vanduara," which out-classed the Prince of Wales' celebrated yacht "Formosa." In 1887 he built the "Thistle" and later the "Valkyrie II." and "Valkyrie III." to compete for the "America" cup. In 1893 he designed the "Britannia" for the Prince of Wales, a yacht said to be the fastest racer in the world. In all he designed over 400 vessels, including steam yachts, cargo, passenger steamers, etc. He died Nov. 12, 1904.

Watson, James Craig, an American astronomer; born in Ontario, Can., Jan. 28, 1838; was graduated at the University of Michigan at the age of 19, and appointed Professor of Astronomy in that institution at the age of 21; called to the chair of astronomy in the University of Wisconsin in 1879. He was the discoverer of 23 asteroids, and received the Lalande medal of the Paris Academy of Sciences for the discovery of six of them in one year. He was a member of the Eclipse Expeditions to Iowa in 1869 and to Sicily in 1870, and took charge of the Transit of Venus Expedition to Peking, China, in 1874. He was also the discoverer of several comets. His most lasting work was the writing of his "Theoretical Astronomy," a standard work on the computation of orbits and the theory of perturbations. He died in Madison, Wis., Nov. 23, 1880.

Watson, John, pseudonym Ian Maclaren, an English clergyman and author; born in Manningtree, Essex, England, Nov. 3, 1850; was graduated at Edinburgh University (1870); studied theology at New College, Edinburgh, and Tubingen; ordained minister of the Free Church, Logiealmond, Perthshire (1875); called to Free St. Matthew's, Glasgow (1878); translated in 1880 to Sefton Park Church, Liverpool, one of the most important congregations of the Presbyterian Church of England; received Hon. D. D. in 1895 from St. Andrews University, and a similar degree in 1897 from Yale University, where he lectured on preaching (1896). Till 1893 Dr. Watson was known as a popular preacher and able minister; but in that year he acquired additional distinction and wider fame by writing a series of Scotch idylls for the "British Weekly." When collected and published in book form under the title of "Beside the Bonnie Brier Bush," became widely popular and were followed by "The Days of Auld Lang Syne," "Kate Carnegie and those Ministers," "A Doctor of the Old School," "Afterwards," etc. He resigned his position in Liverpool in 1905. During a lecture tour in the United States, he died at Mount Pleasant, Ia., May 6, 1907.

Watson, John Crittenden, an American naval officer; born in Frankfort, Ky., Aug. 24, 1842; was graduated at the United States Naval Academy in 1860; in 1861 promoted to master and attached to the "Sabine"; in 1862 transferred to Farragut's flagship, the "Hartford," on which he served through the war, being in the battles at Forts Jackson and St. Philip, the passage of the Vicksburg batteries in 1862, passage of Port Hudson in 1863, and Mobile Bay in 1864. During the latter engagement Admiral Farragut took up his position in the port-mizzen rigging, the better to observe the progress of the fight. Lieutenant Watson, seeing the danger to which he was exposed, procured a rope and lashed him to the rigging. He was made commodore Nov. 7, 1897. In the Spanish-American war he commanded the blockading squadron on the N. Cuban coast, and organized a fleet which it was said was intended to operate against the coast cities of Spain. In 1899 he succeeded Admiral Dewey in command of the Asiatic squadron at Manila.

Watson, Thomas E., an American journalist and politician; born in Columbia co., Ga., Sept. 5, 1856; elected to the 52d Congress and was the People's party nominee for Vice-Pres-

ident of the United States in 1896. He is respected for the vigor and frankness of his opinions, and in 1903 wrote a life of Thomas Jefferson which has attracted attention.

Watson, William, an American scientist; born in Nantucket, Mass., Jan. 19, 1834; was graduated at Harvard University in 1857; Professor of Mechanical Engineering and Descriptive Geometry in the Massachusetts Institute of Technology in 1865–1873; and became secretary of the American Academy of Arts and Sciences in 1884. In 1860–1863 he gathered information which was used in 1864 in founding the Massachusetts Institute of Technology.

Watt, the name of the electrical unit of activity or rate of doing work. It is measured by the product of the voltage or electromotive force of the source into the current supplied. Thus a dynamo which is yielding 30 amperes at a voltage of 100 is working with an activity of 3,000 watts. The watt is equal to 0.735 foot-pound per second; so that one horse power per second is equal to 746 watts. It is customary to use the kilowatt as the practical unit. It is equal to 1,000 watts or 1.2 horse power per second.

Watt, James, a British inventor; born in Greenock, Scotland, Jan. 19, 1736. Having determined to adopt the trade of mathematical instrument maker he went to London (1754) to learn the art, but ill-health compelled him to return after only a year's apprenticeship. Shortly after his return he endeavored to establish himself in Glasgow. The corporation objecting, he was appointed in 1757 mathematical instrument maker to the university, and resided within its walls till 1763, when he removed into the town. From this time till 1774 he acted as a civil engineer — made several surveys for canals and harbors, and some of his plans were afterward carried into execution. It was during this period that he conceived and gave shape to his improvements on the steam-engine, which have rendered his name famous. To give his inventions practical form he associated himself in 1774 with Mathew Boulton, the firm of Boulton & Watt, having their works at Soho, Birmingham. He retired from business in 1800.

Watt was a fellow of the Royal Societies of London and Edinburgh, and member of the National Institute of France. He died in Heathfield Staffordshire, Aug 25, 1819.

Watterson, Henry, an American journalist; born in Washington, D. C., Feb. 16, 1840. His first work as journalist was with the "Democratic Review," and "The States," in Washington, D. C. He edited the "Republican Banner," Nashville, Tenn., before and after the Civil War, in the interim serving with distinction in the Confederate army. He edited, in Louisville, Ky., the Louisville "Journal" (1867–1868); and the Louisville "Courier-Journal" since 1868.

Watts, Isaac, an English hymnologist; born in Southampton, England, July 17, 1674. He studied at a Nonconformist academy at Newington, London; was appointed (1698) assistant clergyman to the congregation worshiping in Mark Lane; some years after (1702) sole pastor of the same body. Forced by bodily weakness to resign his charge (1712), he spent the rest of his life at Abney Park, near London. He wrote "Hymns and Spiritual Songs"; "Divine and Moral Songs for the Use of Children"; "A Manuel of Logic"; several volumes of "Sermons," besides other works of less note. He died in 1748.

Waukegan, city and capital of Lake county, Ill.; on Lake Michigan and the Chicago & Northwestern railroad; 35 miles N. of Chicago; has an elevated site, a fine harbor, and popularity as a health and summer resort; ships much grain, lumber, coal, livestock, salt, and fish; and has sugar-refineries and steel, brass, and wire works. Pop. (1910) 16,069.

Wausau, city and capital of Marathon county, Wis.; on the Wisconsin river and several railroads; 200 miles N. W. of Milwaukee; is in a fine farming section, and is otherwise chiefly engaged in the lumber industry and in granite quarrying; is the seat of the County Insane Asylum. Pop. (1910) 16,560.

Wave, one of a series of undulating inequalities on a surface; an undula-

tion; a swelling outline. The undulating streak or line of luster on cloth, watered and calendered. Anything which advances and recedes, rises and falls, comes and goes, or increases and diminishes with some degree of regular recurrence, like a wave; as, a wave of prejudice, a wave of popularity, etc. A waving or undulating motion; a signal made by waving the hand, a flag, or the like.

In physics, an undulation; a movement which, though it seems progressive, is in reality only up and down, or, to a certain extent, to and fro, though it is transmitted to a distance by the fact that at each successive point the otherwise similar motion of a single particle takes place a little later in time—the time which it takes for the motion to be communicated from the preceding moving particle. Waves exist in water, in air (sound waves), in ether (light waves), etc. A wave on the ocean alternately rises into a ridge and sinks into a depression (the trough of the sea). Anything floating, say a quantity of sargasso seaweed, rises on a billow and sinks again as the wave falls, without otherwise changing its place. Even the undulatory movement affects the water only to a few feet in depth, where, unless there are submarine currents, all is still. When a wave comes inshore and enters a narrow gulf, it becomes affected both by the return of the reflex waves from its sides and the friction of the bottom, if the water be shallow, so that instead of a movement mainly up and down, it now becomes progressive, and breaks in a series of billows on the sands or rocks. In the former case the water runs up the sand, and then recedes considerably before the next wave comes in. Sea waves are mainly caused by the wind. If a breeze blowing off the shore cause ripples near the land, these will rise higher the farther they are from the shore if the cause which brought them into being continues to operate. Out on the open ocean they rise to some feet in elevation, but it is a great exaggeration to call them "mountains high"; they have, however been witnessed approximately 60 feet from trough to summit in the Atlantic. When they rise into a sharp ridge, and the wind is strong, they crest over, break, and fall on the leeward side with abundant spray; but this does not occur on the ocean to the same extent as near the shore. The force of waves is so great that, geologically viewed, they are a potent force in altering the conformation of coasts. When in a storm they break with transcendent force on a shore they scoop out soft shales into caves, allowing the harder rocks above in time to fall in, or they break off portions of those harder rocks themselves, besides grinding against each other any fallen slabs which may already be lying on the beach.

Wax, a name given to various animal and vegetable substances having analogous physical peculiarities, but differing somewhat in chemical constitution and in other properties. They are all hydrocarbon compounds allied to oils and fats, but common wax differs from the ordinary fats in containing no glycerin. Common wax, which forms the honeycomb of the various species of bees, is in its unbleached condition a hard unctuous solid, possessing usually a faint sweetish odor, but no taste. It is easily separated from the extraneous matter of the comb by melting in water, when the wax floats on the surface of the water as a thin, oily fluid, which is drawn off and allowed to solidify into cakes. A large amount of unbleached wax from almost all regions is annually imported into the principal countries. The preparation of purified or white wax is accomplished by exposing the substance in very thin flakes or shreds to the influence of the atmosphere and light, the wax being periodically watered and turned, as is done in the case of grass bleaching of linen, etc. When the whole of the surface color has disappeared the wax is remelted, and a new surface is thereby obtained for exposure, and the treatment is thus continued till a uniform white color is obtained throughout the mass. It is semi-transparent, tasteless, and inodorous, softening so as to admit of being molded by the fingers at 85° F., and melting at 145° F. It is chiefly used for making candles of

unequalled beauty and illuminating effect, for modelling and making wax flowers and fruits. Medicinally, white wax has emollient properties, and is chiefly employed as an ingredient in ointments and in the preparation of simple ointment. Yellow wax is also used as an ingredient of plasters and ointments. Owing to its high price, white wax is much adulterated with spermaceti and inferior waxes, and even with starch, etc.

Wax Tree, a genus of tree in which some of the tropical American species yield a copious supply of the yellow resinous juice characteristic of the order. This gum resin so much resembles gamboge in appearance that it is called American gamboge: it possesses like purgative properties.

Waxwing, an insessorial bird belonging to the dentirostral section of the order. It derives its names from the appendages attached to the sec-

BOHEMIAN WAXWING.

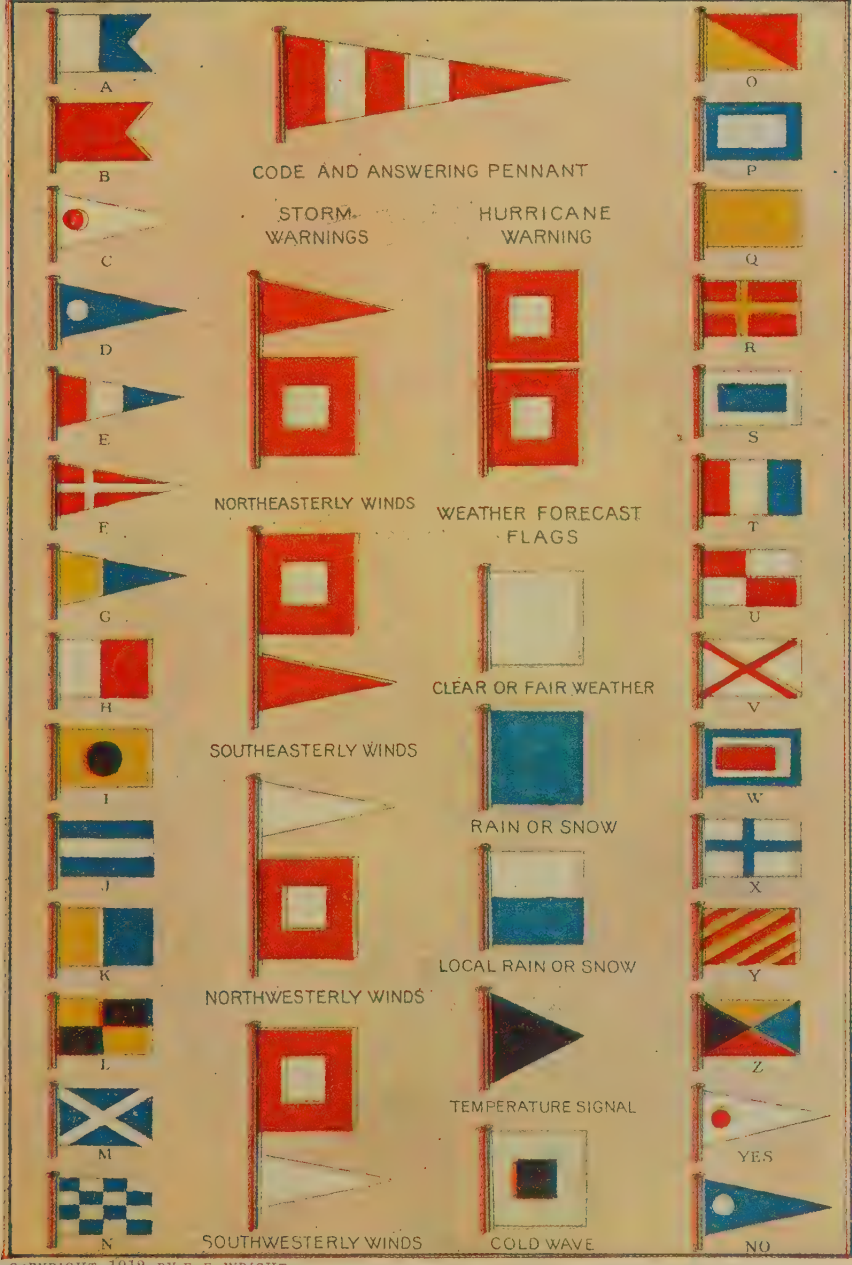
ondary and tertiary quill feathers of the wings, which have the appearance of red sealing-wax. An American waxwing is the cedar bird.

Wayland, Francis, an American educator; born in New York city, March 11, 1796; was graduated at Union College in 1813, and was president of Brown University in 1827–1855. He was the author of many valuable works, including: "Elements of Moral Science," "Elements of Political Economy," "Limitations of Human Responsibility," "Domestic Slavery Considered as a Scriptural Institution," "Elements of Intellectual Philosophy," etc. He died in Providence, R. I., Sept. 30, 1865.

Wayne, Anthony, an American military officer; born in East Town, Chester co., Pa., Jan. 1, 1745; became a land surveyor; was an intimate friend of Franklin, and early took an active interest in public affairs. Having married and settled to farming (1767), he was elected to the Pennsylvania convention and Legislature in 1774, served on the committee of safety, and in 1775 raised a regiment with which he took part in the campaign against Canada. He fought with distinction and was wounded at the battle of Trois Rivieres (Jan. 3, 1776); held the fortress of Ticonderoga and Mount Independence till May, 1777; and, after receiving the commission of Brigadier-General, led a division at Brandywine (Sept. 11), and commanded the right wing at Germantown (Oct. 4). He made a dashing raid on the British lines in the winter of 1777–1778, carrying off a great quantity of supplies, and on the night of July 15, 1779, achieved the most brilliant of the American victories in the storming of Stony Point, for which he received a gold medal and the thanks of Congress. By a bayonet charge he rescued Lafayette in Virginia in 1782; made a daring attack on the whole British Army at Green Spring (July 6), and defeated the British and Indians in Georgia. After the war "Mad Anthony" retired quietly to his farm, but he was made Major-General in 1792, and again took the field, this time against the Western Indians, whom he overthrew at Maumee Rapids, and forced to conclude the treaty of Greenville (1795). On his way back to his farm at Waynesboro he died at Presque Isle (now Erie), Dec. 15, 1796. A monument was erected to him at Waynesboro in 1809.

Waynesburg College, a coeducational institution in Waynesburg, Pa.; founded in 1851 under the auspices of the Cumberland Presbyterian Church.

Weasel, in zoölogy, the genus Putorius; length about 12 inches, of which the tail constitutes nearly a quar-



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INTERNATIONAL CODE AND U. S. WEATHER BUREAU SIGNALS

ter; body extremely slender and arched, head small and flattened, eyes black and remarkably quick and lively, ears short and rounded; the neck is long, being but little shorter than the trunk and very flexible; tail short, and without a terminal tuft of hair; legs short, and furred to end of toes. Upper part light reddish-brown, under surface quite white. It feeds on mice and rats, moles and small birds, and, according to Bell, it would appear that this animal ought rather to be fostered as a destroyer of vermin than extirpated as a noxious depredator. Occasionally the weasel becomes white in winter, though the tail always retains its reddish tinge, as that of the ermine does its black tip.

Weather Bureau, the government office maintained by all civilized nations for the systematic observing and predicting of the weather from day to day. Many of these were established before weather predictions were considered practicable or even possible, and in such offices the original object of the institution was the collection of climatic statistics considered as an important item in the description of the country and the study of its agriculture, diseases, and other vital phenomena. Of such older statistical bureaus may be instanced the Weather Bureau, formerly of the Signal Office in the Department of War at Washington, but now a part of the Department of Agriculture. The appointment of official predicters in all countries whose territories are sufficiently well covered by telegraph stations is at once a demonstration of the revolution that has taken place in our ideas with regard to the utility of meteorology, concerning which science it is only a comparatively few years since prominent astronomers and physicists expressed grave doubts as to the value of the great accumulation of observations, and as to the possibility of developing any thing more than a crude and useless guess as to the weather of the forthcoming day.

The bill introduced by General Paine, after some modifications, became a law, Feb. 4, 1870. Under this and subsequent laws the meteorological work, at first conducted by the chief signal officer of the army, has come to be the most extensive and in some respects the most important of that done by any single government office; its growth and success is largely due to the foresight of General Myer, the enthusiasm of General Hazen, and the economy of General Greely. The evident utility and great popularity of the work of the weather bureau proved an immediate stimulus to the development of similar work in Europe, and since 1872 the larger weather bureaus throughout the world have been established, the older and smaller ones have been modified, and meteorology, in place of being considered as a branch of chemistry or physics, or a chapter of statistics, is treated like astronomy as an independent, well-organized science, whose field of work is quite definite, and whose utility is unquestioned. On July 1, 1891, the United States Weather Bureau was made a branch of the Department of Agriculture. It has over 1,000 employes, and the average of correct forecasts is four out of five.

Weather Fish, called also the mud fish and thunder fish. It is about a foot in length, dark-brown above, flecked with black; abdomen orange, with black spots. In Germany and Austria it is regarded as a weather prophet, because it usually comes to the surface about 24 hours before bad weather, and moves about with unusual energy. This habit has sometimes led to its being confined in a glass globe as an animated barometer.

Weather Signal, a signal for indicating weather conditions. Five flags are used by the United States Weather Bureau to indicate the temperature and ordinary conditions of the weather. They are numbered 1 to 5, but some are used in couples to form combinations. No. 1 is a perfect white square and indicates "clear or fair weather." No. 2 is all blue, also square, and its meaning is "rain or snow." No. 3 is a black triangle and is called the "temperature signal." It is always used in combination with either the white or blue square. When placed above the white or blue flag it means that the weather will be warmer, and when below, that it will be colder. When it is omitted altogether, the significance is that the tempera-

ture will be stationary. Sometimes three flags are used in combination. For example, when the triangular flag is at the top of the pole, with the white square immediately below it, and the blue square below the white, the signal reads "warmer, fair weather, followed by rain or snow." No. 4 is the "cold wave" signal. It is a white square with a black square in the center of the white. It shows up very clearly, and can never be mistaken for anything else. No. 5 indicates "local rains or showers." It is a square flag, of which the upper half is white and the lower blue.

Weaver, Aaron Ward, an American naval officer; born in the District of Columbia, July 1, 1832; was graduated at the United States Naval Academy in 1854. In 1858–1859 he cruised along the African coast in the sloop "Marion," and returned in command of the prize slaver "Ardennes." He served with distinction through the Civil War, participating in numerous engagements; was promoted commander July 25, 1866; captain, Aug. 8, 1876; and rear-admiral, June 27, 1893; and was retired Sept. 26, 1893.

Weaver, James B., an American lawyer; born in Dayton, O., June 12, 1833; was admitted to the bar in 1854; served in the Union army during the Civil War, becoming a Brigadier-General of volunteers. After the war he practised law in Iowa; filled several offices in that State; edited the "Iowa Tribune," published in Des Moines; was a member of Congress in 1879–1881; the Greenback candidate for President of the United States in 1880; again in Congress in 1885–1889; and in 1892 again became a candidate for the presidency, this time on the People's party ticket, receiving 22 electoral votes.

Weaver Bird, a popular name for a species of birds whose names have reference to the remarkable structure of their nests. The weaver birds are large finches, with somewhat elongated bodies, moderate wings, long tails, and very bright coats, the latter often varied in the breeding season. Yellow and yellowish-red are the prevailing tints, but species occur in which black, red, white, or gray predominates. The weaver birds are extremely social, and many of the species live in large colonies during the period of incubation. The nests of the various species differ considerably in shape and general structure, some building a separate nest for the male, while the female sits in another on her eggs, till relieved by her mate; others again contain more than one chamber, as that of the golden weaver bird; while the social weaver birds construct an umbrella-like roof, under which from 800 to 1,000 separate nests have been found. But in all cases fibers, slender

WEAVER BIRD AND NEST.

twigs, or blades of grass are the materials employed, the whole being tightly woven, after having been rendered more flexible and adhesive by the application of saliva. The nests themselves consist of a more or less globular portion, elongated into a tube below, with the entrance at the bottom or at the side. They are very generally suspended at the extremities of branches, and often over water, probably as affording security, against monkeys, snakes, and other enemies. The Mahali weaver bird is said to insert thorns into its nest, as a further

protection against marauders. It is a noteworthy fact that the golden weaver bird has begun to build on the telegraph wires by the side of the railway in Natal, owing to the rapid destruction of the willows before advancing civilization.

Weaving, the art of interlacing yarn threads or other filaments by means of a loom, so as to form a web of cloth or other woven fabric. In this process two sets of threads are employed, which traverse the web at right angles to each other. The first set extends from end to end of the web in parallel lines, and is commonly called the warp; while the other set of threads crosses and interlaces with the warp from side to side of the web, and is generally called the weft or woof. In all forms of weaving the warp threads are first set up in the loom, and then the weft threads are worked into the warp, to and fro, by means of a shuttle. It was by this fundamental process of interlacing two sets of thread in looms of simple mechanism that the mummy cloths of Egypt, the fine damasks and tapestries of the Greeks and Romans, the Indian muslins, the shawls of Cashmere, and the famed textile fabrics of Italy and the Netherlands were produced. From the latter countries weaving by means of a hand loom was introduced into England.

This loom consists of a frame of four upright posts braced together by cross beams, the center beam at the back being the warp beam, the beam in front being that on which the web is wound, while just below this, in front, is the breast beam for the support of the weaver at his work. At the top of the loom is an apparatus by which the heddles are lifted or lowered by means of treadles under the foot of the weaver. These heddles consist of two frames from which depend cords attached by a loop or eye to each thread in the warp. As these threads are attached to the frames, alternately, it follows that when one heddle is raised every second thread in the warp is also raised, while the remaining threads are depressed; and this is called shedding the warp. When the warp threads are thus parted there is left a small opening or shed between the threads, and it is through this opening that the weaver drives his shuttle from side to side. The shuttle, which is hollow in the middle, contains the weft-thread wound round a bobbin or pirn, and as the shuttle is shot across the web this weft thread unwinds itself. When the thread is thus introduced it is necessary to bring it to its place in the fabric. This is accomplished by means of the lay or batten, which is suspended from the top of the loom, and works to and fro like a pendulum by an attachment of vertical rods at each side called the swords. Attached to the lay is what is called the reed, which is a sort of comb having a tooth raised between every two threads of the warp, and so by driving up the lay after a weft thread has been introduced the weaver strikes home that thread to its place in the cloth.

A great improvement was made on the hand loom when John Kay about 1740 invented the fly shuttle, as it was called. This enabled the weaver to drive the shuttle both ways with the right hand by means of a cord attached to a box or trough placed at each end of the shuttle race, which impelled the shuttle to and fro at each jerk of the cord. But the most important improvement was made on the hand loom by Joseph Jacquard of Lyons, who, in 1801, invented an apparatus by which the most intricate patterns could be woven as readily as plain cloth. This is accomplished by an ingenious arrangement of hooks and wires, by means of which the warp threads are lifted in any order and to any extent necessary to make the shedding required by the pattern. The order in which these hooks and wires are successively lifted and lowered is determined by means of a series of pasteboard cards punctured with holes, the holes corresponding to a certain pattern and the cards passing successively over a cylinder or drum. The hooked wires pass through these holes and lift the warp threads in an order which secures that the arranged pattern is woven into the fabric. When the pattern is extensive the machine may be provided with as many as 1,000 hooks and wires.

Another development was made in

the art of weaving by the invention of the power loom by the Rev. E. Cartwright in 1784. In the power loom, which has been gradually improved and adapted to steam power, the principal motions of the old method of weaving, such as shedding the warp threads, throwing the shuttle, and beating up the thread, are still retained. The frame of the power loom is of cast iron, and motion is communicated to the loom by means of a shaft, the stroke of the lay being made by cranks attached to the driving shaft, while the shuttle is thrown by means of a lever attachment at the center of the loom. Though the principle of the loom is the same in all kinds of weaving, yet there are numberless modifications for the production of special fabrics. The lappet loom is one suitable for weaving either plain or gauze cloths, and also for putting in representations of flowers, birds, or the like.

Cross weaving is a term applied to that process in which, as in gauze weaving, the warp threads, instead of lying constantly parallel, cross over or twist around one another, thus forming a plexus or interlacing independent of that produced by the weft. Double weaving consists in weaving two webs simultaneously one above the other, and interweaving the two at intervals so as to form a double cloth. Kidderminster or Scotch carpeting is the chief example of this process. Pile weaving is the process by which fabrics like that of velvets, velveteens, corduroy, and Turkey carpets are produced. In the weaving of these fabrics, besides the ordinary warp and weft, there is what is called the pile warp, the threads of which are left in loops above the surface till cut, and the cutting of which constitutes the pile.

Webb, Alexander Stewart, an American educator; born in New York city, Feb. 15, 1835; was graduated at the United States Military Academy in 1855; entered the Civil War as major of the 1st Rhode Island Infantry, Sept. 14, 1861; served with distinction and was wounded at Gettysburg; was in the Rapidan and Wilderness campaigns; promoted lieutenant-colonel 49th Infantry, July 26, 1866; transferred to the 5th Infantry, March 15, 1869; brevetted Major-General, U. S. V. and U. S. A.; and discharged, Dec. 3, 1870. He was president of the College of the City of New York in 1869–1902; wrote, "McClellan's Campaign of 1862." He died Feb. 12, 1911.

Webb, Charles Henry (pen name John Paul), an American journalist and humorist; born in Rouse's Point, N. Y., Jan. 24, 1834. His journalistic work was done on the New York "Times" (1860–1863); the "Evening Bulletin," and the "Californian," San Francisco (1863–1866; the latter he founded); and the New York "Tribune," for which, mainly, his humorous articles were written. He wrote several burlesque dramas, etc. He died May 24, 1905.

Webb, James Watson, an American military officer and diplomatist; born in Claverack, N. Y., Feb. 8, 1802. Having a taste for military life he obtained a lieutenancy in the artillery; became adjutant in 1825, served for a time under General Scott; resigned from the army in April, 1827, to take up journalism. He was connected with the "Morning Courier," New York (1827–1829); "The Morning Courier and New York Enquirer" (1829–1859). He died in New York city, June 7, 1884.

Weber, Carl Maria von, a German composer; born in Eutin, Germany, Dec. 18, 1786. His father was a musician, and had him carefully educated. He learned for a time painting and engraving, but music was his passion, and he began to compose at the age of 12. At the close of 1816 he settled at Dresden, where he was the founder and director of German opera. In 1822 he went to Berlin, to bring out his "Der Freischutz" (The Free-Archer), the most celebrated of his compositions, and which at once gave him rank with the great masters of his art. In 1826 Weber visited London to superintend the production of his "Oberon," which he had composed for Covent Garden Theater, and was brought out, conducted by Weber himself, April 12, 1826. Soon after unmistakable symptoms of pulmonary disease presented themselves, and the

health of the great composer sank rapidly, and his illustrious career closed on June 5, 1826, when he was found lifeless in his bed.

Webster, Albert Falvey, an American story-writer; born in Boston, Mass., in 1848. His best stories were printed in "Scribner's," "Appleton's," and the "Atlantic Monthly," and include: "Our Friend Sullivan," "Little Majesty," "An Operation in Money," "My Daughter's Watch," "Miss Eunice's Glove." He died at sea, Dec. 27, 1876.

Webster, Daniel, an American statesman and orator; born in Salisbury, N. H., Jan. 18, 1782. He was a child of the wilderness, and but for our system of school education, which, even then, pushed the means of instruction into remote solitudes, he would never have been enabled to bring his great faculties to bear in public life. Daniel was the second son of Ebenezer Webster, a small farmer and justice of the county court. He entered Dartmouth College in 1797, and taught school in winter to pay his expenses. He was graduated in 1801, and commenced to study law, but was induced, by an offer of a salary of $350 a year, to become preceptor of an academy at Freyburg, Me., paying his board by copying deeds. In 1804, he went to Boston, and entered the law office of Mr. Gore. In 1805 he was admitted to the Boston bar, passed one year in the practice of his profession at Boscawen, and on the death of his father, established himself at Portsmouth, N. H., and married in 1808.

Having engaged in politics as a member of the Federalist party, he was elected to Congress, where he immediately took rank with the foremost men of the country. He took his seat in the special session of May, 1813, and on June 10 delivered his maiden speech on the repeal of the Berlin and Milan decrees. This, and his mastery of the question of currency and finance, secured him a high position. At the close of the session, however, he removed to Boston, where during a period of seven years, he devoted himself exclusively to the practice of his profession, and occupied a position as a counsellor and an advocate, above which no one has ever risen in this country. In 1822, he was a member of the Massachusetts Constitutional Convention, and on Dec. 22, 1822, he pronounced at Plymouth on the anniversary of the landing of the Pilgrims, the first of that remarkable series of discourses, or orations, which put him in the first rank among American orators. In 1829, he delivered an oration at the laying of the corner stone of the Bunker Hill Monument; in 1843, one on its completion. In 1826, he pronounced the eulogy of John Adams and Thomas Jefferson, two fathers and Presidents of the American Republic, who died on the same semi-centenary anniversary of the Declaration of Independence; and in 1851, a patriotic discourse on the laying of the corner stone for the extension of the Capitol at Washington.

In 1822, he was elected to Congress from Boston, and distinguished himself by his speeches on the Holy Alliance, and the Greek revolution, and his labors in the revision of the criminal laws of the United States. In 1826, he was chosen a United States Senator; and in 1830, rose to the height of his forensic renown, in a speech of two days, in the debate with Senator Hayne, of South Carolina, on the right of "nullification." Webster and Clay were the leaders of the opposition during the administration of Jackson and Van Buren. In 1841, he became Secretary of State under President Harrison; remained in the administration of President Taylor till 1843; and was a third time Secretary of State in 1850, in the cabinet of Mr. Fillmore. On various occasions Webster had been an unsuccessful candidate for the presidency. He aspired again to that position in 1852, but his advocacy of compromises on the slavery question had given offense to the Abolitionists, and the choice of the convention assembled at Baltimore fell on Gen. Winfield Scott. The great orator died a few months after, Oct. 24, 1852. Webster's figure was commanding; his countenance was remarkable even in repose, but when animated by the excitement of debate it "spake no less audibly than

his words." His gestures were vehement, without being undignified; and his voice was unrivaled in power, in clearness, and in modulated variety of tone. The most complete edition of his works is that published in 1851, in six volumes 8vo.

Webster, Noah, an American lexicographer; born in Hartford, Conn., Oct. 16, 1758. He was graduated at Yale College in 1778, having served in the Revolutionary War in his junior year; was admitted to the bar in 1781, but relinquished it for teaching in 1782; and in 1788 settled in New York as a journalist. Thence he removed to New Haven in 1798, and thence to Amherst in 1812, returning to New Haven in 1822. In 1783–1785 he published his "Grammatical Institute of the English Language," in three parts, "Webster's Spelling Book," "A Plain and Comprehensive Grammar," and "An American Selection of Lessons in Reading and Speaking." All these works had an enormous sale. His literary activity was henceforth very great, the works issued by him during the next few years including important legal and linguistic studies. In 1806 he published an 8vo. English dictionary, which led the way for his great work, the "American Dictionary of the English Language." In preparing this work he visited England, and he finished the dictionary during an eight months' residence in Cambridge. In June, 1825, he returned to America. The first edition of his dictionary was published in 1828 (2 vols. 4to.); it was followed by a second in 1840; since which time a number of editions have appeared, and the work has grown into the greatly improved and enlarged "International Dictionary." He died in New Haven, Conn., May 28, 1843.

Wedgwood Ware, a superior kind of semi-vitrified pottery, without much superficial glaze, and capable of taking on the most brilliant and delicate colors produced by fused metallic oxides and ochres; so named after the inventor. It is much used for ornamental ware, as vases, etc., and, owing to its hardness and property of resisting the action of all corrosive substances, for mortars in the laboratory.

Wednesday, the name of the fourth day of the week (in Latin, dies Mercurii, day of Mercury), derived from the old Scandinavian deity Odin or Woden.

Weed, the name given to each of those plants which grow wild in cultivated grounds, and injure the crops; which they do both by choking them and by exhausting the soil.

Weed, Stephen Hinsdale, an American military officer; born in New York city in 1834; was graduated at the United States Military Academy in 1854; served in Texas and Florida in 1856–1857; was promoted captain in May, 1861; and had command of a battery in the Maryland, Peninsular, and Northern Virginia campaigns; was chief of artillery in Falmouth, Va., in 1862–1863; promoted Brigadier-General of volunteers for conspicuous gallantry at the battle of Chancellorsville. During the battle of Gettysburg, while holding back the Confederates from an important point on Little Round Top, he was fatally shot. The position was afterward named "Weed's Hill." General Weed died near Gettysburg, July 2, 1863.

Weed, Thurlow, an American journalist; born in Cairo, N. Y., Nov. 15, 1797; was employed as a lad in several printing offices; served as a private in the War of 1812; and afterward edited newspapers in Western New York, till in 1830 he founded the Albany "Evening Journal," an anti-Jackson, Whig, or Republican paper, which became the organ of the party, and which he controlled for 35 years. He was a leading party manager in State and National politics in 1824–1876, exercising almost supreme influence in nominations and appointments, while declining all offices for himself. He was influential in nominating Harrison in 1836 and 1840, Clay in 1844, Taylor in 1848, and Scott in 1852; with Seward and Greeley controlled New York; supported Lincoln and the Civil War; and went for him on a mission to Europe in 1861–1862. In 1867–1868 he was editor of the New York "Commercial Advertiser." He wrote: "Letters from Europe and the West Indies," "Reminiscences," "Autobiography." He died in New York city, Nov. 22, 1882.

Weed, Walter Harvey, an American geologist; born in St. Louis, May 1, 1862; was graduated at the Columbia School of Mines in 1883; and was then appointed geologist on the United States Geological Survey. In 1883–1889 he was on the geological survey of the Yellowstone Park. He discovered that colors in hot springs and deposits in geysers are caused by algæ. He also discovered Death Gulch in that park where bears, elk, etc., are killed by inhaling carbon dioxide gas emitted from an extinct hot spring. In 1889–1898 he was engaged on a general geological exploration of Montana, and made important discoveries.

Week, the space of seven days; the space from one Sunday, Monday, etc., to another; the most obvious and convenient division of the natural or lunar month. The division of time into weeks did not exist among the aborigines of America when the New World was discovered, nor did it exist among the Polynesians, the Japanese, or, it is now believed, the Chinese. It is nearly universal in India, and was found thoroughly rooted when the first Christians went to that country. So has it been from a period of high antiquity in Scandinavia, the names of the several days being connected with identically the same planets in the two regions; so that, if at noon on Sunday in Sweden one could be transported in a moment to India, he would find it Aditwar (= Sunday) there, and so of any other day in the week. The Hebrews, and it is thought the other Semites, had the institution of weeks, the days apparently being simply numbered first, second, third, etc. During the early centuries of their history the Greeks and the Romans had not the institution of weeks, there having been ancient forgery in connection with Homer's oft-quoted passages on the subject. Dion Cassius, in the 2d century after Christ, considered that the week with the planetary names of the days had been introduced into Rome only recently, and from Egypt. The establishment of Christianity under Constantine confirmed the change, and thence the septenary division of time spread to the whole Christian, and subsequently to the Mohammedan world.

Weevil, a popular name for a large number of beetles, marked by the prolongation of the anterior part of the head into a beak or proboscis, generally used by the females as an ovipositor, and by both sexes as a boring organ. They were formerly ranked in one family, but Le Conte constituted them a special group with the title rhynchophora, and divided them into several families. According to some authorities there are about 30,000 species; and most would allow at least half that number. Many of the weevils are dangerous enemies to the agriculturist, destroying grain, fruit, flowers, leaves, and stems.

The boll weevil has done great destruction to cotton. At Dallas, Texas, on November 6, 1903, in an address at the National Boll Weevil and Cotton Convention, James Wilson, Secretary of Agriculture in President Roosevelt's Cabinet, called attention to the defective methods of Texas farming as he had observed them, and declared that under them all the money in the United States Treasury could not exterminate the boll weevil pest. He advocated better methods — particularly deep ploughing. "The United States government," Mr. Wilson said, "had spent during this year more than $1,000,000 in Texas to help the farmers." He declared that the boll weevil pest could not be exterminated, and added: "You cannot keep it this side of the Sabine and Mississippi rivers, either. It is going across."

Weidner, Revere Franklin, an American theologian; born in Center Valley, Pa., Nov. 22, 1851; was graduated at Muhlenberg College, Allentown, Pa., 1869, and at the Lutheran Theological Seminary, Philadelphia, in 1873; was ordained in the Lutheran Church; Professor of Dogmatics and Exegesis at Augustana Theological Seminary, Rock Island, in 1882–1891. In the latter year he became president and Professor of Dogmatic Theology at the Chicago Lutheran Theological Seminary.

Weighing Machine, a machine for ascertaining the weight of any object; a common balance, a spring balance, a steelyard, or the like. The

term also applies to an automatic device that will register the weight of a person standing on a platform after a coin has been dropped into a receptacle through an opening called a slot.

Weight, the force with which a given body is attracted to the earth. It is, in accordance with Newton's Second Law, measured by the product of the mass into the acceleration. For all bodies at the same distance from the earth's center the acceleration is the same; and hence the weight is simply proportional to the mass. Consequently we may compare masses by comparing their weights; and this is really what is done in all operations of weighing.

Weights and Measures. Of the earliest standards of length the principal were the palm or handbreadth, the foot, and the cubit (from elbow to tip of mid-finger). There were two leading cubits: the natural cubit in Egypt, Chaldea, Phœnicia, and Greece = 6 palms = 2 spans = 1½ foot = 18.24 inches; and the royal cubit of Memphis, found also in Babylonia and Chaldea = 20.67 inches. The Greek foot (= 12.16 inches) passed into Italy and was there divided into 12 unciæ (inches); it was afterward shortened, becoming as small as 11.65 inches. The Romans used a 3-foot ulna. The Saxons used an ell or yard of 36 inches, based on the Roman foot. This was continued by the Normans in England, various modifications occurring in the ell. Henry II. and Elizabeth made standard yards of 36 inches.

Two-thirds of a cubit made a "foot"; a cubic "foot" of water weighed a talent. When the "foot" was 2-3 the royal cubit, the talent was 655,566 grains; this was the Egyptian, Hebrew, and Olympic monetary talent, later known as the great Alexandrian talent of brass and the Egypto-Roman talent. A talent half this weight was known as the Alexandrian talent of silver, or 327,783 grains; this was divided into 60 minas of 5,463 grains each; these are the origin of the Saxon moneyer's pound of 5,400 grains = Mint pound or Tower pound = old apothecaries pound of Germany; one such pound, in silver coins, was the original form of "one £ sterling," and was divided into 20 "shillings," or 240 "pence" or pennyweights; each pennyweight was divided into 32 monetary grains (wheat grains), each equal to 0.703125 modern grain. The Tower weight was abolished in 1527. The Saxon ounce contained 416.5 grains = nearly, Roman uncia = 1-12 libra; the libra (= 5,015 grains) was the Greek-Asiatic and Persian mina of 5,015 grains. The Troy pound is 5,760 grains = 12 ounces of 20 pennyweights each. Troy weight is now restricted to gold, silver, and jewels, except diamonds and pearls; the latter are weighed in carats (= 3.1683 grains), which were originally 1-144 of the Alexandrian ounce (the twelfth part of the mina of silver). Various larger pounds were early used for merchandise; in 1303 the "avoirdupois" pound (= 7,000 grains) was in use. The standard of capacity is the gallon, which was in 1824 adjusted so as to contain 70,000 grains, or 10 pounds avoirdupois of water at 62° F. and 30 inches bar. pressure; this gallon occupying 227.274 cubic inches, instead of the old Winchester gallon of 274¼ cubic inches. The French or metric system of weights and measures is based on the decimal system. The metric system was legalized in the United States on July 28, 1866.

Weir, a dam or dyke thrown across a river or stream to raise the level of the water for the purpose of diverting it to drive machinery, irrigate land, or supply towns, or to render the upper portion of the stream navigable, or for some other purpose. A weir is constructed of stone, or, as in the United States, of timber, crossing the river at right angles or obliquely.

Weiss, John, an American clergyman and author; born in Boston, Mass., June 28, 1818. He published: "Æsthetic Prose," a translation of Schiller's philosophical and æsthetic essays; "Life and Correspondence of Theodore Parker"; "American Religion." He was a disciple of the Transcendental philosophy, an earnest abolitionist, an advocate of woman's political enfranchisement, and a defender of reason in religion. He died in Boston, March 9, 1879.

Weitzel, Godfrey, an American military engineer; born in Cincinnati, O., Nov. 1, 1835; was graduated at the United States Military Academy in 1855; promoted 1st lieutenant of engineers in 1860; was commissioned Brigadier-General of volunteers 1862, and in October defeated a strong Confederate force in Labadieville, La.; was promoted captain of engineers, March 3, 1863, and served in Western Louisiana; and was brevetted lieutenant-colonel, U. S. A., in July, 1863; was promoted Major-General of volunteers in September, 1864. In March–April, 1865, he had command of all the troops N. of the Potomac river and marched into Richmond, April 3, 1865; was brevetted Major-General, U. S. A., in March, 1865, and was promoted lieutenant-colonel of engineers in 1882. He died March 19, 1884.

Welch, Ashbel, an American civil engineer; born in Nelson, N. Y., Dec. 4, 1809. In 1862 he became manager of the Pennsylvania railroad lines in New Jersey, and subsequently was made president. He introduced the block system in railroading in the United States. He died in Lambertville, N. J., Sept. 25, 1882.

Welch, Philip Henry, an American humorist; born in Angelica, N. Y., March 1, 1849. He had the distinction of being the maker of innumerable newspaper jokes, and short dialogues, the writing of which he made a profession. He died in Brooklyn, N. Y., Feb. 24, 1889.

Welland Canal, a ship canal in Ontario, Canada, extending from Port Colborne, on Lake Erie, to Port Dalhousie, on Lake Ontario, a distance of 27 miles. It runs parallel to the Niagara River, and overcomes the obstacle to navigation between the lakes, presented by the Niagara Falls. It was opened to travel in 1833, and has since been enlarged and deepened.

Welles, Gideon, an American statesman; born in Glastonbury, Conn., July 1, 1802; studied law; and in 1826 became proprietor of the Hartford "Times." In 1861 he was appointed by President Lincoln Secretary of the Navy, and filled that office with marked success and credit during the whole of the Civil War. He died in Hartford, Conn., Feb. 11, 1878.

Wellesley College, an American educational institution established in 1870 in the village of Wellesley, Mass., 15 miles S. W. of Boston. The institution is devoted entirely to the higher education of women. The campus contains about 300 acres; which prior to the college establishment comprised a private and highly cultivated country-seat. The institution is non-sectarian, and was founded by Henry F. Durant, of Boston.

Welling, James Clarke, an American educator; born in Trenton, N. J., July 14, 1825; was graduated at Princeton College in 1844; engaged in journalism in 1856–1865, being literary editor of the "National Intelligencer" in Washington. Prior to and during the Civil War he was a strong opponent of secession. He favored the proposition of President Lincoln to free the slaves with compensation to loyal owners, but doubted the constitutionality of the Emancipation Proclamation. He was president of St. John's College, Annapolis, Md., in 1867–1870, and Professor of Belles-Lettres at Princeton College in 1870–1871. In the latter year he was chosen president of Columbian University, Washington, D. C. He died in Hartford, Conn., Sept. 4, 1894.

Wellington, a city and capital of New Zealand; on Port Nicholson, an inlet of Cook's Strait; on the S. W. extremity of the provincial district of Wellington, North Island. Its harbor is 6 miles long and 5 wide. The provincial district of Wellington has an area of 11,003 square miles; pop. 121,-854. It has an equable and healthy climate, but is subject to earthquake shocks. It is intersected by several mountain ranges, but there are many fine agricultural and pastoral districts. Gold was found in 1881.

Wellington, Arthur Wellesley, Duke of, a British general and statesman; born in Dublin, Ireland, April 30, 1769. In 1787 he received a commission and after a rapid series of changes and promotions, attained by purchase in 1793 the command as lieutenant-colonel of the 33d Regiment. During 1794 and 1795 he served in Flanders. In 1796 his regiment was dispatched to Bengal. After the capture of Seringapatam he was appoint-

ed, in 1799, to the administration of Mysore, his brother being at this time governor-general. In 1802 he attained the rank of Major-General. Early in 1805, his health failing, Wellesley obtained leave to return home, and arrived in England in September. From November to February he was engaged as Brigadier-General in Lord Cathcart's expedition to the Continent, which was without result. In January, 1806, he succeeded Lord Cornwallis as colonel. On April 10, 1806, he married Lady Catherine Pakenham, third daughter of the Earl of Longford. He was shortly afterward elected M. P. for Rye, and in April, 1807, was appointed secretary of state for Ireland. In 1809 Wellesley was appointed to take the chief command in the Peninsula, which had been overrun by the French. The famous passage of the Douro, and the defeat of Soult which followed, fittingly opened this campaign. For the victory at Talavera (July 28), the first of a long list that subsequently took place in the Peninsula, the government raised the Commander-in-Chief to the peerage as Viscount Wellington. Toward the end of 1810 Wellington fought the battle of Busaco, which was followed by the famous fortification and defense of the lines of Torres Vedras. On August 12, 1812, Wellington entered Madrid. Next followed the battle of Vittoria (June 21, 1813), for which decisive victory Wellington was given the baton of Field-Marshal; then battles in the Pyrenees, the capture of San Sebastian and the crossing of the Bidassoa into France. In 1814 the battle of Orthez was gained, and in the same year the battle of Toulouse, in which Soult's best troops were routed, and the hopes of France in the Peninsula utterly annihilated. Napoleon abdicated on April 12, and a few days later the war was brought to a close by the signing of conventions with Soult and Berthier. In May the triumphant general was created Marquis of Douro and Duke of Wellington. In July he went as ambassador to France and succeeded Lord Castlereagh as British representative in the Congress of Vienna. In April he took command of the army assembled in the Netherlands to oppose Napoleon, and was in command at the battle of Waterloo, at which Napoleon was defeated. With the return of peace he resumed the career of politics. He accepted the post of master-general of the ordnance with a seat in the cabinet of Lord Liverpool in January, 1819. In 1822 he represented Great Britain in the Congress of Vienna. In 1826 he was appointed high-constable of the Tower. On Jan. 22, 1827 he succeeded the Duke of York as Commander-in-Chief of the forces. On Jan. 8, 1828, he accepted the premiership, resigning the command of the forces to Lord Hill. In January, 1829, he was appointed governor of Dover Castle, and lord warden of the Cinque Ports. In 1830 repeated motions for parliamentary reform were defeated. His opposition to reform made the duke so unpopular that he was assaulted by the mob June 18, 1832, and his life endangered. He accepted office under Sir Thomas Peel in 1834–1841, and again in 1846, when he helped to carry the repeal of the corn laws, which till then he had opposed. In 1842 he resumed the command of the forces on the death of Lord Hill. He died in Walmer Castle, Sept. 14, 1852.

Wells, Clark Henry, an American naval officer; born in Reading, Pa., Sept. 22, 1822; was graduated at the United States Naval Academy in 1846; served through the Mexican War, and accompanied the Atlantic cable expedition in 1857; served through the entire Civil War and later with the squadron off Brazil, and on the coast of Italy. He was promoted rear-admiral April 1, 1884. Died Jan. 28, 1888.

Wells, David Ames, an American political economist; born in Springfield, Mass., June 17, 1828; was graduated at Williams College in 1847, and at the Lawrence Scientific School in 1851; and became assistant professor in the latter institution. In 1866 he was made the chairman of a commission to devise the best means to raise money for the government; in 1866–1870 was a special commissioner of revenue; and in 1879 was appointed a member of the Board of Arbitration for Railroads. He died in Norwich, Conn., Nov. 5, 1898.

Wells, Herbert George, English scientist and author; born in Bromley, Kent, Sept. 21, 1866. He was educated at So. Kensington Royal College of Science, and became known by novels of fictional science, typical of which are "The War of the Worlds," "The First Men in the Moon," etc.

Wells, Horace, dentist, b. in Hartford, Vt., Jan. 21, 1815; studied dentistry in Boston and practised there until 1836, when he returned to Hartford, where in 1844 he inaugurated the painless extraction of teeth by means of nitrous-oxide gas. He died in New York city Jan. 24, 1848.

Wells College, a non-sectarian educational institution for women, founded in 1868 by Henry Wells, at Aurora, N. Y. The college property is valued at about $500,000; the endowment is $375,000; income, over $115,000; average number of faculty, 30; students, 180.

Welsbach Light, an invention of Carl Auer von Welsbach, an Austrian, in 1884. In Europe it is known as the Auer light. It is based upon the discovery that certain materials become incandescent at a low temperature. The process followed is to saturate a combustible filament in the form of a network with a solution of a salt of a refractory earth, such as zirconium. It is then dried out and burned, the combustible element disappearing and leaving a frame of refractory material, which becomes incandescent at a low temperature. The filament is called a mantle and is exceedingly fragile.

Welsh, Herbert, an American philanthropist; born in Philadelphia, Pa., Dec. 4, 1851; was graduated at the University of Pennsylvania (1871); practised art in Philadelphia for several years; became editor of "City and State," a weekly devoted to good government, in 1895. He was one of the founders of the Indian Rights Association.

Welsh, John, an American diplomatist; born in Philadelphia, Pa., Nov. 9, 1805; received a collegiate education; became a sugar importer and was active in public affairs in many capacities; took an active part in the relief measures during the Civil War, especially in connection with a committee that raised $1,000,000 for the Sanitary Commission. In 1873 he became president of the Board of Finance of the Centennial Exposition, receiving from the citizens of Philadelphia, at its close, a gold medal, and the sum of $50,000, with which he endowed the John Welsh chair of English literature in the University of Pennsylvania. In 1878 he became minister to England, but resigned after two years. He died in Philadelphia, April 10, 1886.

Welsh Calvinistic Methodists, a name for the Calvinistic Methodists, the great majority of whose congregations are in Wales, and consist in large measure of members speaking the Welsh tongue.

Welwitschia, a remarkable South African plant. It presents a stem or rhizome forming a woody mass rising to a foot at most above the ground, and having a diameter of from 4 to 5 inches to as many feet, this mass bearing the two original cotyledonary leaves, which, when they reach their full development, become dry and split up into shreds, but do not fall off. Every year short flower-stalks are developed at the base of these leaves.

Wen, an encysted tumor varying exceedingly in size and character, and commonly situated immediately under the skin; but occurring also in some of the internal viscera. The causes of their formation are unknown.

Wenceslaus, or **Wenzel,** an Emperor of Germany and King of Bohemia; born in 1361; was the son of Charles IV., whom he succeeded in 1378. He was a dissolute and cruel prince. He favored the Hussites, but was unable to save the life of Huss. He died in 1409.

Wendell, Barrett, an American author and educator; born in Boston, Mass., Aug. 23, 1855; was graduated in 1877 at Harvard, where he afterward taught as an instructor, an assistant professor, and (from 1898) as full Professor of English. He published: "English Composition"; "Cotton Mather," etc.

Wends, the name of a section of the Slavonic race, now dwelling mostly in that part of Germany known as Lu-

satia, partly in Prussia, partly in the kingdom of Saxony. In the 6th century the Wends were a powerful people, extending along the Baltic from the Elbe to the Vistula, and S. to the frontiers of Bohemia. They comprised a variety of tribes. To the Wends of today, Prussia is merely a military expression; they have always remained closely united among themselves, preserving the old customs and considering the mingling of races by marriage as opposed to the laws of origin. The distinctions of caste among them are very marked and scrupulously respected. The nominal religion of the Wends is Protestantism, but whatever they are called on the census, they have not materially modified their beliefs nor swerved from their traditions; they present the anomaly of being the last descendants of barbarians, perpetuating in the heart of Western Europe the living memory of an almost forgotten invasion, true to their origin and special characteristics, protected by their forests, their inundations, their rigorous winters, and the peculiar comformation of their strange country from the inroads of the levelling civilization at their very doors.

Wenley, Robert Mark, a Scotch-American educator; born in Edinburgh, Scotland, in July, 1861; was graduated at the University of Glasgow in 1884; and later pursued post-graduate study on the Continent; was assistant Professor of Logic at the University of Glasgow in 1886–1894 and head Professor of the Philosophical Department in 1888–1895. He was made head of the Philosophical Department at the University of Michigan in 1896.

Wentworth, John, an American journalist; commonly known as "Long John" Wentworth; born in Sandwich, N. H., March 5, 1815; was graduated at Dartmouth College in 1836; settled in Chicago; became editor of the "Democrat," with which paper he was connected for 25 years. He was admitted to the bar in 1841; in 1843 he was elected congressman and served six terms. He introduced the first steam fire engine ("Long John") into Chicago, was influential in procuring the city charter and in establishing its public school system, and was twice elected mayor (1857 and 1860), his administrations being vigorous and notable. He died in Chicago, Oct. 16, 1888.

Werewolf, or **Man-wolf,** the same as the French loup-garou, an imaginary being believed in during the Middle Ages. According to an old writer, "The werewolves are certain sorcerers, who having anointed their bodies with an ointment which they make by the instinct of the devil, and putting on a certain enchanted girdle, do not only unto the view of others seem as wolves, but to their own thinking have both the shape and nature of wolves, so long as they wear the said girdle; and they do dispose of themselves as very wolves, in worrying and killing, and most of human creatures." This superstition was widely spread in ancient and mediæval times, and is still prevalent among many savage races, in corners of France, as well as Russia and Bulgaria.

Wesley, Charles, an English hymnist; born in Epworth, England, Dec. 29, 1708, younger brother of John Wesley; educated at Westminster School and Christ Church, Oxford. He accompanied his brother to Georgia as an ordained clergyman, but after his return to England he became, in 1738, a preacher in the Methodist connection, and materially assisted the success of the movement by his numerous hymns, large collections from which have been frequently published. Two of his sons, Charles and Samuel, were celebrated for musical genius. He died in London, March 29, 1788.

Wesley, John, an English clergyman; founder of Methodism; born in Epworth, England, June 17, 1703, son of the rector of Epworth; educated at the Charter House, and at Christ Church, Oxford. He took his degree of B. A. in 1724, was ordained deacon in 1725, became a fellow of Lincoln College, and lecturer and moderator in classics in 1726; and took priest's orders in 1728. He now gathered together a number of pupils and companions who met regularly for religious purposes, and by so doing acquired the name of Methodists. Among these companions were Hervey, Whitefield,

and Law. In 1735 Wesley accepted an invitation from General Oglethorpe to go to America to preach to the colonists of Georgia. After a stay of two years he returned to England (February, 1738), and in the following May an important event took place in his inner religious life, namely, his conversion. In June he paid a visit to Herrnhut, the Moravian settlement, returning to England in September. Early in the following year (1739) he began open-air preaching, in which he was for a time associated with Whitefield. His first chapel was built in Bristol in 1739. Having now the sole control of the religious body which adhered to him, he devoted his entire life without intermission to the work of its organization, in which he showed much practical skill and admirable method. His labors as an itinerant preacher were incessant. He would ride from 40 to 60 miles in a day. He read or wrote during his journeys, and frequently preached four or five times a day. He held strongly to the principle of Episcopacy, and never formally separated from the Church of England. He contributed to the collection of hymns, the greater part of which were written by his brother Charles. He died in London, March 2, 1791.

Wesley, Samuel, Sr., an English clergyman; born in Winterborne-Whitchurch, England, in 1662. He was the father of Charles, John, and Samuel, Jr. He wrote "Life of Christ: An Heroic Poem," "Eupolis's Hymn to the Creator," etc. He died in Epworth, April 22, 1735.

Wesley, Samuel, Jr., an English hymnist; born in London, Feb. 10, 1690, son of Samuel. He was headmaster of Bundell's grammar school in Tiverton, in 1732–1739. He remained with the old High Church party, and did not embrace Methodism with his brothers. Editions of his poems have been published in 1736, 1743, and 1862. He is best known by his hymns in the Methodist hymn book. He died in Tiverton, England, Nov. 6, 1739.

Wesleyan Methodism, the largest and most important British Methodist denomination, and the parent of some smaller religious bodies now independent of its government.

Wesleyan University, a coeducational institution in Middletown, Conn. In 1830 the original buildings, North College and South College, which had been erected for a military academy, came into the possession of the New York and New England Conferences of the Methodist Episcopal Church; in 1831 a charter was obtained, and the university opened its doors and offered its services to aid in the training of students, who hitherto had been obliged to seek outside their Church the advantages of higher education. In 1872 the institution was opened to women, quite a number of whom have been graduated with distinction.

Wesselhoeft, Elizabeth ("Lily" Foster Pope), an American writer; born in Dorchester, Mass., Oct. 20, 1840. Among her works are: "Jerry the Blunderer"; "Sparrow the Trump," etc.

Wessex (West Saxons), one of the most important of the Anglo-Saxon kingdoms in England during the 6th, 7th, and 8th centuries, and the early part of the 9th, and that in which the other kingdoms were ultimately merged in the reign of Egbert in 827. It is now comprised in the counties of Devon, Somerset, Wilts, Hants, Berks, and a part of Cornwall.

West, Benjamin, an American painter; born in Springfield, Pa., Oct. 10, 1738, of Quaker parents. After several years of portrait painting in Lancaster, Philadelphia, and New York city, he went to Italy, in 1760, and settling in Rome painted "Cimon and Iphigenia," and "Angelica and Medora." He visited England in 1763, and was so well patronized that he determined to make it his future residence. He painted "Hector and Andromache," "The Return of the Prodigal Son," and a historical painting of "Agrippina," the last for the Archbishop of York, who introduced him to George III., who became his steadfast patron, and gave him commissions to the extent of about $5,000 a year for upwards of thirty years. He painted a series of historical works for Windsor, and for the oratory there a series on the progress of revealed religion. On the death of Reynolds, in 1792, he was elected president of the

Royal Academy. He afterwards painted a number of religious and historical pictures of large size, among them being "Christ Healing the Sick" (in the National Gallery), the "Crucifixion," "Ascension," and "Death on the Pale Horse." "The Death of General Wolfe at Quebec" and "The Battle of La Hogue" are accounted the best of his historical pieces. The 400 historical pictures which he painted show skill in composition and considerable inventive power, but have no real vitality, being tame in style and monotonous in color. His "Death of General Wolfe" was among the first of his productions that attracted public notice, especially for the rational innovation on which he had ventured in it, of painting historical personages in a modern dress. There is in the Pennsylvania Hospital, in Philadelphia, a copy (with some alterations) of "Christ Healing the Sick," which was presented to it by West. He died in London, March 11, 1820.

West Bay City, a former city of Bay Co., Mich., on the Saginaw river, near its mouth, and opposite Bay City, to which it was annexed in 1905.

Westboro, a town of Worcester Co., Mass., 12 miles E. of Worcester. It has boot and shoe factories, Lyman School and an insane asylum. Pop. (1910) 5,446.

West Bromwich, a municipal and parliamentary borough of England, in Staffordshire. Coal and iron mining, and metal manufactures, are its chief industries. Pop. 59,489.

Westbrook, a city of Cumberland Co., Me., 5 miles E. of Gorham. It has paper, silk, and warp mills and brick factories.

West Chester, a borough charmingly situated in a fertile district of Pennsylvania, 23 miles W. of Philadelphia. Is the county-seat of Chester Co.; is chiefly a residential town; but has commercial, industrial, and other interests. Pop. (1910) 11,767.

Westerly, a town of Washington Co., R. I., 44 miles S. W. of Providence; has woolen and cotton mills and granite quarries. Pop. (1910) 8,696.

Western Australia, See AUSTRALIA, WESTERN.

Western College, a coeducational institution in Toledo, Ia.; founded in 1856 under the auspices of the United Brethren Church.

Western Empire, The, a portion of the Roman empire, consisting of Italy, Illyricum, Spain, Gaul, Britain, and Africa, which Valentinian I. reserved for himself, when in 364 he shared the imperial authority with his brother Valens, who reigned in Constantinople as Emperor of the East, and whose territories comprised the E. half of the Balkan Peninsula, Greece, Egypt, Syria, and Asia Minor, as far as Persia. This partition of the Roman empire became final in 395, when Theodosius the Great divided the Roman world between his sons, Honorius, who became Emperor of Rome and the West, and Arcadius, who became Emperor of Constantinople and the East. The Western Empire terminated in 476.

Westfield, a town in Hampden county, Mass.; on the Westfield river and several railroads; 9 miles W. of Springfield; comprises several villages; is the seat of the Western State Normal School; and manufactures steam heaters, cigars, organs, paper, and bicycles. Pop. (1910) 16,044.

Western Reserve, The, a tract of land in the N. E. of what is now the State of Ohio, once forming part of the claims of Connecticut in the Northwest Territory. When, by the treaty of 1783, Great Britain relinquished the territory S. of the Great Lakes and E. of the Mississippi, disputes arose among the States of Virginia, New York, Massachusetts, and Connecticut as to the right of occupancy in that locality. The difficulty was finally settled by the cession of the whole to the Federal government, but Connecticut reserved a tract of nearly 4,000,000 acres on Lake Erie. The State finally disposed of this in small lots to colonists, and so accumulated a very large school fund.

West Hoboken, a town in Hudson county, N. J.; 2 miles W. of Hoboken and opposite New York city; occupies an elevated site; is the seat of St. Michael's Monastery and a Dominican Convent; and manufactures silk goods, braids, buttons, and brushes. Pop. (1910) 35,403.

West Indies, or the **Antilles,** an extensive archipelago lying between North and South America, stretching from Florida to the shores of Venezuela. It is divided into the Bahamas, the group stretching from near the coast of Florida in a S. E. direction; the Greater Antilles, comprising the four largest islands of the group, Cuba, Haiti, Porto Rico, and Jamaica; and the Lesser Antilles, stretching like a great bow, with its convexity toward the E., from Porto Rico to Trinidad, near the coast of Venezuela. Almost the whole archipelago lies within the torrid zone. The total area does not exceed 95,000 square miles, of which the Greater Antilles occupy nearly 83,000 square miles. The climate is extremely hot, and the islands abound in tropical productions. Except Haiti, in which there are two republics, Porto Rico and other islands recently acquired by the United States from Spain, and a few islands off the coast of South America, the West Indian Islands are in the possession of European powers. Two-thirds of the inhabitants are negroes. Pop. 5,000,000.

West Indies, Danish, a group of three islands, St. Thomas, St. John, and St. Croix, which belong to Denmark. A proposed treaty ceding them to the United States in 1902, was defeated in the Danish Rigsdag, largely through influence brought to bear by the islanders themselves, the colored portion apprehending unfair treatment in the event of annexation to the United States. These islands lie off the E. coast of Porto Rico, and are, in fact, a mere extension of the marine elevation of which Cuba, Jamaica, Haiti and Porto Rico are the principal representatives, while they also form a connecting link between the Greater and the Lesser Antilles. St. Thomas, the best known of the group, lies 38 miles due E. of the N. E. extremity of Porto Rico; St. John lies 12 miles E. of St. Thomas, while St. Croix lies about 50 miles S. of St. John and St. Thomas, and 60 miles S. E. of the S. E. point of Porto Rico.

The islands are very small, with a comparatively small producing capacity, their chief importance being by reason of the harbors which they offer and their value as a strategic as well as general commercial point. St. Croix, the largest of them, is about 20 miles long and from 1 to 5 miles wide, with an area of about 80 square miles and a population of about 20,000. It is also the most productive of the islands, a considerable area being devoted to the production of sugar cane and tropical fruits. St. John, the smallest of the islands, has an area of about 21 square miles, a population of only about 1,000, and a comparatively small cultivable area, its chief value being in its possibilities for harbor purposes, the natural harbor of Coral Bay being described as one of the best protected natural harbors in the West Indies. St. Thomas, which lies nearest to Porto Rico, is by far the most important in its present availability for harbor purposes, the harbor of Charlotte Amalie having been for more than a century recognized as one of the best, if not the best, natural harbors in the entire West Indies. Nearly the entire population of the island is clustered around the port of Charlotte Amalie, fully 10,000 of the 12,500 population living in that city, and less than 2,000 being engaged in agriculture.

Westinghouse, George, an American inventor; born in Central Bridge, N. Y., Oct. 6, 1846; removed to Schenectady, where he received a public school education; entered the machine shop of his father; and at the age of 15 designed a rotary engine. He served in the Union army in 1863–1864. His inventions include the Westinghouse air brake, electrical machinery, railroad signals, etc.

Westlake, William, an American inventor; born in Cornwall, England, in 1831; removed to Milwaukee, Wis., early in life; later learned the tinsmith's trade; was employed by Capt. John Ericsson to make models for his first hot-air engine. Subsequently he entered the employment of the La Crosse and Milwaukee Railroad company. His inventions include the Westlake car heater, the globe lantern, the oil cook stove, the stove board, etc. He died in Brooklyn, N. Y., Dec. 28, 1900.

Westminster Abbey, the coronation church of the sovereigns of England, and one of the chief ornaments

of London. It is a magnificent Gothic pile, situated near the Thames, and adjoining the Houses of Parliament. In 1065 a church was built here in the Norman style by Edward the Confessor. Part of this structure still remains in the pyx house and the S. side of the cloisters; but the main building, as it now stands, was begun in 1220 by Henry III., and was practically completed by Edward I. Various additions, however, were made, down to the time of Henry VII., who built the chapel which bears his name.

The extreme length of the church, including Henry VII.'s chapel, is 531 feet; breadth of transepts, 203 feet; height of roof, 102 feet; height of tower, 225 feet. The coronation ceremony takes place in the choir, where the coronation stone brought by Edward I. from Scotland is situated beside the coronation chairs of the English sovereigns. Westminster Abbey is distinguished as the burial place of a large number of English kings from Edward the Confessor to George II.; the N. transept is occupied chiefly by monuments to warriors and statesmen; while in the S. transept is situated the "Poets' Corner," the burial and memorial place of most of England's great writers from Chaucer to John Ruskin.

Westminster Assembly, an assembly of divines, lay assessors, etc., which met in obedience to an ordinance of the British Parliament, issued June 12, 1543. They sat 1,163 times, their last meeting being on Feb. 22, 1649. On Sept. 15, 1643, commissioners arrived from the Church of Scotland to aid in the deliberations. On April 20, 1643, the Assembly submitted to Parliament a Directory for Public Worship; between Oct. 1 and Nov. 26, 1644, the Confession of Faith, in two portions; on Nov. 5, 1647, the Shorter Catechism; and on Sept. 15, 1648, the Longer Catechism. The Parliament, though accepting and ratifying the productions of the Assembly, did not allow the spiritual independence which the majority of its members earnestly desired to obtain.

Westminster College, a coeducational institution in New Wilmington, Pa.; founded in 1852, under the auspices of the United Presbyterian Church.

Westminster Hall, the hall of the old palace of Westminster, in London; erected by Richard II. (1397–1399) on the foundations of a structure built by William Rufus. The building is closely associated with many stirring events in English history; but it is chiefly remarkable as the place where were held such great state trials as those of the Chancellor More, Lady Jane Grey, the Earl of Stafford, King Charles I., and Warren Hastings.

Westphalia, the name given at different periods to (1) one of the circles of the old German empire, (2) one of Napoleon's kingdoms (1807–1813), conferred on his brother Jerome; and (3) now to a province of Prussia. The latter is bounded by Rhenish Prussia, Holland, Hanover, Brunswick, Hesse, and Nassau. Its area is 7,803 square miles. The surface in the S. and N. E. is generally mountainous; the Northwest spreads out into extensive and often marshy plains, and belongs to the basin of the Ems; the Northeast and a small part of the East to the basin of the Weser; the remainder, constituting the far larger portion of the whole, belongs to the basin of the Rhine, whose chief tributaries are the Ruhr and Lippe. Munster is the capital. Pop. 2,701,420.

Westphalia, Peace of, the name given to the peace concluded in 1648 at Munster and Osnabruck, by which an end was put to the Thirty Years' War.

West Point, a United States military post in Orange co., N. Y., on the Hudson river, and on the West Shore and the New York, Ontario and Western railroads; 52 miles N. of New York city. It is widely known as the seat of the United States Military Academy. Here are a cemetery where the remains of many distinguished army officers are interred, and the ruins of Fort Putnam. During the Revolutionary War West Point was fortified to control the river, and a heavy chain was stretched across the river to Constitution Island to prevent British warships from ascending the river. In 1777 the place was captured and destroyed by the British,

MAIN BUILDING

WINTER SCENE AT WEST POINT

WEST POINT MILITARY ACADEMY

but new fortifications were built at a cost of $3,000,000. Benedict Arnold was given command of the place Aug. 5, 1780, but escaped on the 25th, after the apprehension of Maj. John Andre, and the discovery of their plot. There are several important monuments in West Point, including the statue of General Sedgwick, the monument of Kosciusko, that of Major Dade, etc. The noted West Point foundry is at Cold Spring on Constitution Island. During 1906–1911 the reservation underwent a striking transformation, both in academic equipment and architectural beauty.

West Virginia, a State in the South Atlantic Division of the North American Union; admitted to the Union, June 20, 1863; capital, Charleston; number of counties, 55; area, 24,780 square miles. Pop. (1900) 958,800; (1910) 1,221,119.

The State is hilly and mountainous. The Alleghany Mountains form the Virginia boundary line. A continuation of the Cumberland Mountains of Tennessee crosses the State about 20 miles W. of the Alleghanies. This range embraces the Flat Top, Cotton Hill, Greenbrier, Gauley, and Rich mountains. The surface W. of these mountains gradually descends to the Ohio river, this river forming the principal water system of West Virginia. The chief rivers are the Big Sandy, Kanawha, Guayandotte, and Monongahela, all of which are navigable and enter the Ohio. The Kanawha is fed by the Greenbrier, Gauley, Elk, and Coal rivers. The Potomac river forms part of the N. boundary line. There are numerous waterfalls in these streams all of which afford excellent water power, the falls at Harper's Ferry being especially noted.

Every known variety of coal is mined in the State. West Virginia ranks second in the United States in the output of petroleum. Other important mineral productions are coke, salt, mineral water, natural gas, clay products, sandstone, and limestone.

The soil consists of disintegrated limestones, sand, clay, and loam, giving it exceeding fertility. Nearly all garden vegetables and cereals grow abundantly.

There were reported by the United States census in 1900, 4,419 manufacturing establishments, employing $55,719,938 in capital, and 33,085 persons; paying $12,876,902 for wages and $42,632,813 for materials used; and having finished products valued at $74,177,681. The principal articles of manufacture were iron and steel, lumber, and timber products, flour and grist, coke, railroad cars, packed meat, tobacco, cigars, and cigarettes, pottery, malt liquors, glass, foundry and machine shop products, and clothing.

On Oct. 31, 1901, there were reported 46 National banks in operation, having $4,046,000 in capital; $3,057,304 in outstanding circulation; and $2,797,250 in United States bonds. There were also 101 State banks, with $4,165,177 capital, and $1,327,480 surplus; and 1 mutual savings bank with $563,264 in savings deposits.

In 1900 children of school age numbered 322,390; the enrollment in public schools, 232,343; and average daily attendance, 151,254. There were 5,916 public school buildings, public school property valued at $3,966,014, and 7,179 teachers. For higher education there were 26 public high schools, 14 private secondary schools, 6 State Normal schools, 2 State preparatory schools for the university, Barboursville College, Broaddus Institute, Methodist Episcopal Conference Seminary, Bethany College, West Virginia University, Ohio Valley College, Lewisburg Female Seminary, 2 State colored institutes; also several large Catholic educational institutions.

The strongest denominations in the State are the Methodist Episcopal, North; Regular Baptist; Methodist Episcopal, South; Roman Catholic; United Brethren; Methodist Protestant; Presbyterian, South; Disciples of Christ; Presbyterian, North; Lutherans; and Dunkards.

West Virginia has no public debt. On Feb. 1, 1902, the amounts in the various State funds aggregated $2,013,872.72, of which $435,773.25 was uninvested funds of the irreducible school fund and $622,600 was invested funds of the irreducible school fund. The assessed property valuation in 1899 was, real estate, $149,898,172; personal property, $56,158,736; rail-

road property, $22,352,381; total, $228,409,289; State tax rate, $2.50 per $1,000; and school tax, $1 per $1,000.

The governor is elected for a term of four years and receives a salary of $2,700 per annum. Legislative sessions are held biennially in odd years, beginning on the second Wednesday in January, and are limited in length to 45 days each. The Legislature has 30 members in the Senate, and 86 in the House, each of whom receives $4 per day and mileage. There are 5 Representatives in Congress under the new apportionment.

The history of the State prior to 1861 is identified with that of Virginia proper, of which State it formed part till after the outbreak of the Civil War. The Alleghany Mountains, however, formed a natural line of demarkation between the two sections of the original State, and conditions favoring separation had long existed. These reached a climax on the passage by Virginia of an ordinance of secession, the popular vote in the section W. of the mountains being strongly opposed to it. A convention of loyalists met at Wheeling in June, 1861, and in August adopted an ordinance providing for the formation of a new State to be called Kanawha. In November a constitution was adopted and the name West Virginia chosen. This constitution was adopted by the people by a very large majority in April, 1862, and the State was formally admitted to the Union by Act of Congress and the approval of President Lincoln, June 20, 1863.

West Virginia University, a coeducational, non-sectarian institution in Morgantown, W. Va.; founded in 1867.

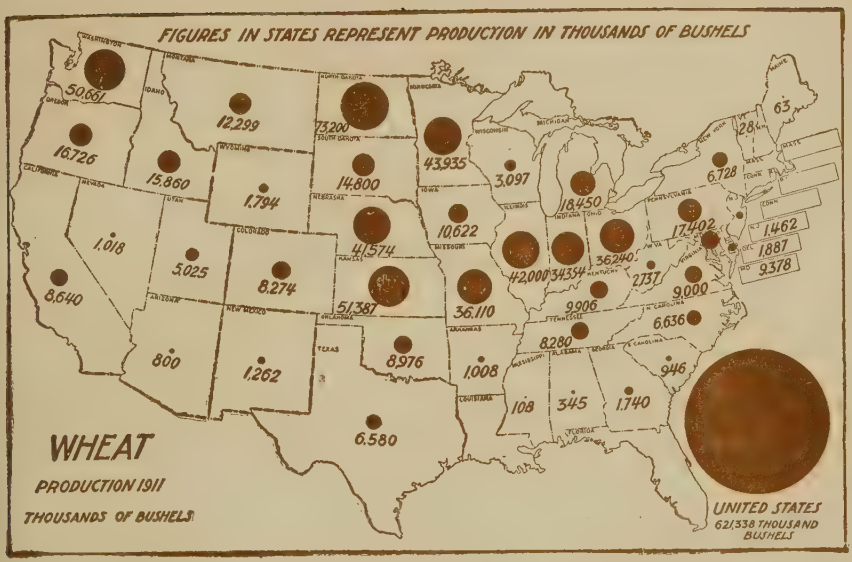
Whale, a name that may be taken as equivalent to Cetacean, and applied to any member of that order of mammals, which includes two great sets: the toothed whales, such as sperm whale and dolphin, and the whalebone whales, such as right whale and rorqual, in which the teeth are only embryonic. The order Cetacea is usually divided into three sub-orders: (1) the Mystacoceti or Balænoidea, baleen or whalebone whales; (2) the Odontoceti or Delphinoidea, toothed whales; and (3) the Archæoceti or extinct Zeuglodonts. The differences between the extant sub-orders are so great that any idea of the close relationship must be abandoned; their common ancestry must be far back, and indeed it is doubtful whether our classification might not be brought nearer the truth by recognizing two

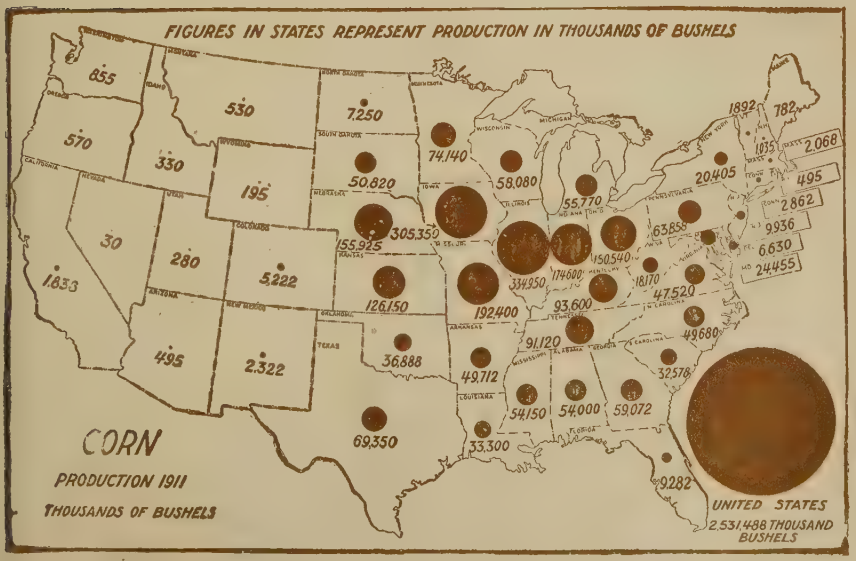
COMMON WHALE.

distinct orders. Less specialized than the modern types are the extinct Zeuglodonts of the Eocene period, but it is by no means certain that they should be included within the order Cetacea. See also CACHALOT.

Whaleback, the name of a form of steam vessel invented by Capt. Alexander McDougall, of West Superior, Wis., in 1874. In 1888 the first whaleback barge was built of 437 tons registry and 1,400 tons capacity. Her cost was $45,000 and in two years she netted nearly twice that amount for her owners. The name whaleback was suggested by the resemblance of the visible portions of the vessel, when afloat, to the back of a whale. A whaleback crossed the Atlantic in 1891. At the World's Fair in Chicago (1893), the "Christopher Columbus," a vessel of this type, with a passenger capacity of 5,000, ran between the city and the Fair.

Whalebone, a horny substance, occurring in long, thin plates, fringed at the edges, and acting as a strainer to detain the whale's food when the animal ejects the water which it has swallowed with the medusæ and small fry which constitute its food. The principal source of whalebone is the "right whale," so called, the Balæna mysticetus or australis. Some 300 of


FIGURES IN STATES REPRESENT PRODUCTION IN THOUSANDS OF BUSHELS
50,661
12,299
73,200
43,935
3,097
18,450
6,728
63
28
16,726
15,860
14,800
1,794
1,462
1,887
9378
17,402
1,018
3,025
8,274
41,574
10,622
42,000
34,354
36,240
2737
9,000
8,640
51,387
36,110
9,906
6,636
8,280
800
1,262
8,976
1,008
946
108
345
1,740
6,580
WHEAT
PRODUCTION 1911
THOUSANDS OF BUSHELS
UNITED STATES
621,338 THOUSAND BUSHELS


FIGURES IN STATES REPRESENT PRODUCTION IN THOUSANDS OF BUSHELS
855
530
7,250
1892
782
570
330
195
74,140
58,080
55,770
20,405
1035
2,068
495
50,820
2,862
30
280
5,222
305,350
155,925
63,858
9936
1,833
150,540
6,630
174,600
18,170
24,455
334,950
47,520
126,150
192,400
93,600
495
2,322
36,888
91,120
49,680
49,712
32,578
54,150
54,000
59,072
69,350
33,300
9,282
CORN
PRODUCTION 1911
THOUSANDS OF BUSHELS
UNITED STATES
2,531,488 THOUSAND BUSHELS

the plates are found in the mouth of an adult whale, and vary from 10 to 15 feet in length. Being very flexible, strong, elastic, and light, whalebone is employed for many purposes.

Wharton, Anne Hollingsworth, an American story-writer; born in Southampton Furnace, Pa., Dec. 15, 1845. Among her books are: "The Wharton Family"; "Heirlooms in Miniature," etc.

Wharton, Mrs Edith (Jones), an American author; born in New York in 1862; married Edward Wharton, of Boston, in 1885. She wrote: "The Greater Inclination"; "The Valley of Decision"; etc.

Wharton, Francis, an American jurist; born in Philadelphia, Pa., March 7, 1820; was graduated at Yale College in 1839, and admitted to the bar in 1843. From 1856 to 1863 he was Professor of Logic and Rhetoric in Kenyon College, O.; in 1863 was ordained in the Protestant Episcopal Church and became rector of St. Paul's in Brookline, Mass., and in 1866 became a professor in the Episcopal Divinity School at Cambridge, Mass. He also held the chair of international law in the Boston Law School. In 1885 he was appointed solicitor for the State Department. Under a resolution of Congress (1888) he was made editor of the Revolutionary diplomatic correspondence of the United States. He wrote extensively on legal and theological subjects. Died in Washington, D. C., Feb. 21, 1889.

Whately, Richard, archbishop of Dublin and scholar; born in 1787; died in 1863. He did much for national education in Ireland, and was the author of "Elements of Rhetoric;" "Elements of Logic;" and other works.

What-Cheer, the watchword or shibboleth of the people of Rhode Island. It is derived from the fact that the Indians of that State thus greeted the founder of the colony, Roger Williams, as he and his companions landed from a canoe on Seekonk river, near the site of the city of Providence.

Wheat, the most valuable and, next to maize or Indian corn, the most productive of all the cereal grasses. The native country of the cultivated wheat has generally been supposed to be the central part of Asia; but the Ægilops ovata, a grass of the regions near the Mediterranean, and of Western Asia, becomes transformed by cultivation into wheat and may be regarded as the original form. Wheat is now the breadstuff of 12 European nations, and is extensively used in North America and to a considerable extent in India. It was no doubt widely grown in the prehistoric world. The Chinese cultivated it 2700 B. C. as a direct gift from heaven; the Egyptians attributed its origin to Isis, and the Greeks to Ceres. Ancient monuments show that the cultivation of wheat had been established in Egypt before the invasion of the shepherd kings, and there is evidence that more productive varieties of wheat have taken the place of one at least of the ancient sorts. Innumerable varieties exist. Many parts of the United States and British provinces and wide regions of South America are admirably adapted to its cultivation. Wheat of the finest quality is also produced in Australia. The value of wheat depends mainly on the quantity of fine flour which it yields; the best wheat yielding 76 to 80 per cent., sometimes even 86 per cent., of fine flour. The greater part of the husk of wheat is separated from the flour by the miller, and is known as bran. That portion of the bran which is more finely divided than the rest receives the name of sharps or pollards.

The first wheat in the United States was planted in New England in 1602, and nine years later in Virginia, which was also the birthplace of Indian corn as we know it. In the period that has elapsed since that time, the wheat fields of this country have expanded, till the yield in 1860 was 260,146,000 bushels. Vast as was this quantity, it had increased till the harvest of 1898 amounted to 530,149,168 bushels — more than double the yield 40 years ago. In 1900 the United States farmers raised more wheat than those of any other country in the world — 522,230,000 bushels. The Asiatic and European fields of Russia yielded 458,623,000, while France came next with 309,383,000. When the crop fails in the Old World, the United States is largely depended on

to supply the deficiency. This is why wheat forms one of the principal exports of this country. The production in the United States during the calendar year 1910 was 464,044,000 bushels of winter wheat, valued at $413,575,000, and 231,399,000 bushels of spring wheat, valued at $207,868,000 — total bushels, 695,443,000; total value, $621,443,000. The world's production in the same period was estimated at 2,864,117,000 bushels (International Institute of Agriculture). Kansas led in winter wheat, and Minnesota in spring wheat.

Wheat Fly, a yellow and orange-colored two-winged fly, about a tenth of an inch long, with black eyes, the female of which deposits her eggs in the heart of the wheat blossom.

Wheat Moth, of the family Tineidæ; lays from 60 to 90 eggs in clusters of about 20 on a single kernel of grain. In 4 to 6 days these eggs produce little worm-like caterpillars not thicker than a hair. Each burrows in a single kernel, and devours the mealy substance, and the work of destruction goes on so unseen that it is only detected by the softness of the grain or the loss of its weight. When fully grown, the Angoumois caterpillar is not more than one-fifth of an inch long, white, with brownish head, six small jointed legs, and 10 extremely small prop legs. It goes into the chrysalis state within the kernel.

Wheaton, Frank, an American military officer; born in Providence, R. I., May 8, 1833; was graduated at Brown University; entered the army as lieutenant in the 1st United States Cavalry in 1855, and until the outbreak of the Civil War was chiefly engaged in campaigns against the Indians; was promoted captain in March, 1861, and colonel, July 21, 1861; and was appointed a Brigadier-General of volunteers in November, 1862. He served with the Army of the Potomac throughout the Civil War; was promoted Brigadier-General, U. S. A., in April, 1892, and Major-General in April, 1897; and retired May 8, following. Died 1903.

Wheaton, Henry, an American jurist; born in Providence, R. I., Nov. 27, 1785; was graduated at Brown University, 1802; practised law in New York, 1812, and edited the "National Advocate." He was a reporter of the United States Supreme Court in 1816–1827, and then became charge d'affaires to Denmark (1827–1835), and in 1835–1846 minister to Berlin. He died in Dorchester, Mass., March 11, 1848.

Wheaton, Loyd, an American military officer; born in Michigan, July 15, 1838; served through the Civil War; won distinction in the battle of Shiloh and in other important actions; and became colonel of the 8th Illinois Volunteers. On July 1, 1866, he was appointed captain in the 34th United States Infantry; Sept. 11, 1895, was commissioned colonel of the 7th Infantry; and in July, 1898, was appointed a Brigadier-General of volunteers. During the Spanish-American War he commanded the 1st Brigade, 1st Division of the 7th Army Corps. In January, 1899, he was assigned to duty with the 20th Infantry in the Philippines; in 1901 was promoted Major-General, U. S. A.; and in 1902 was retired.

Wheaton College, a coeducational institution in Wheaton, Ill.; founded in 1860 under the auspices of the Congregational Church.

Wheat Starch, the starch or flour of wheat, frequently used in the adulteration of mustard, pepper, etc.

Wheel, a circular frame or solid disk turning on an axis. The essential feature of a wheel is rotation, partial or entire. Its motion may be intermittent, oscillatory, or continuous. Its form may be circular or otherwise; its contour regular or irregular. Its functions may be to transmit motion or to modify it. Its application may necessitate cogs of a given form, or it may be smooth, its surface being free from contact with other portions of the machine. It may be hollow, for the conveyance or measurement of fluids; or it may be the means of propulsion of fluids; or conversely it may be propelled by them. It may form a support, and, by rotation, be made effective in assisting transportation. Wheels receive different names according to the purpose for which they are used; as, balance wheel, cog

wheel, crown wheel, fly wheel, paddle wheel, pinion wheel, scape wheel, tread wheel, turbine, etc.

Wheel, The, an agricultural league or guild, of the United States, similar in scope and aim to the Granger movement in the West and Northwest, but whose ramifications extended throughout the Southwest. The first Wheel was founded in Prairie co., Ark., in 1880, and for some years the order increased rapidly in strength and influence among the agricultural class.

Wheeler, Andrew Carpenter ("Nym Crinkle"), an American journalist; born in New York, June 4, 1835. He was connected with the New York "Times" and "World," Milwaukee "Sentinel," etc., and was a most able theatrical critic and general writer. Died 1903.

Wheeler, Benjamin Ide, an American educator; born in Randolph, Mass., July 15, 1854; was graduated at Brown University in 1875; became Professor of Philology at Cornell University in 1886 and of Greek in 1888; accepted the similar chair in the American School of Classical Studies at Athens, Greece, in 1896; and was elected president of the University of California in July, 1899.

Wheeler, Crosby Howard, an American missionary; born in Hampden, Me., Sept. 8, 1823; was graduated at Bowdoin College in 1847; and at Bangor Theological Seminary in 1851; went to Smyrna as a missionary in 1857. He was the founder and first president of Euphrates College in Harpoot. In 1896 his house was destroyed during the Armenian massacres in Harpoot and he was compelled to leave the city and return to the United States. He died in Auburndale, Mass., Oct. 11, 1896.

Wheeler, Joseph, an American military officer; born in Augusta, Ga., Sept. 10, 1836; was graduated at the United States Military Academy in 1859; served in the cavalry till the outbreak of the Civil War, when he entered the Confederate army, in which he was commissioned Major-General and senior commander of cavalry. He won great distinction during the Civil War as a raider. After the war he entered the law profession; held a seat in Congress in 1881–1899; and was made Major-General of volunteers in May, 1898. During the Santiago campaign in Cuba he commanded the Cavalry Division; participated in the battles of Las Guasimas and San Juan Hill; was appointed senior member of the commission to make arrangements for the surrender of the Spanish army; served in the Philippines as commander of the 1st Brigade, 2d Division, from August, 1899, to January, 1900; was appointed a Brigadier-General, U. S. A., June 16, 1900, and was retired on Sept. 10, following. He died Jan. 25, 1906.

Wheeler, Nathaniel, an American inventor; born in Watertown, Conn., Sept. 7, 1820; early engaged in the manufacture of carriages, but about 1848 joined Allan B. Wilson in manufacturing sewing machines. In 1852, on the establishment of the Wheeler & Wilson Manufacturing Company, he became its president, and by his practical knowledge of machinery and ability as an organizer soon built up the largest sewing machine factory in the world. Subsequently he served for six sessions in the Senate and House of the Connecticut legislature; invented and patented various improvements in sewing machines, railway cars, heating and ventilating apparatus, and wood finishing processes. He died in Bridgeport, Conn., Dec. 31, 1893.

Wheeler, William Adolphus, an American lexicographer; born in Leicester, Mass., Nov. 14, 1833. He was assistant superintendent of the Boston Public Library in 1867. Besides assisting in the composition of "Worcester's Dictionary" and of the new illustrated edition of "Webster's Dictionary" (1864), he wrote "Dictionary of the Noted Names of Fiction" (1865); "Who Wrote It?" an index to anonymous literature, left unfinished by him, but completed by Charles G. Wheeler. He died in Roxbury, Mass., Oct. 28, 1874.

Wheeler, William Almon, an American statesman; born in Malone, N. Y., June 30, 1819. He was admitted to the bar in 1845; in 1857 he became a banker and was also connected with the management of railroads. He was a member and presi-

dent pro tem. of the State Senate, 1858–1859; and was elected to Congress in 1860, serving only one term; was president of the State Constitutional Convention in 1867; served in Congress from 1869–1877; was chairman of the committee on the Pacific railroad company. He was the first member of Congress to return his "back pay." He settled the Louisiana difficulties by the bill called the "Wheeler Compromise." In 1876 he was nominated for Vice-President by the Republican party and was elected. He died in Malone, June 4, 1887.

Wheeling, a city, capital of Ohio Co., W. Va., on the Ohio River, 92 miles below Pittsburg. Coal is largely worked in the neighborhood; there are iron-foundries and forges; nail, glass, and paper works, and brisk trade by river and rail. Pop. (1910) 41,641.

Wheelwright, John, an English-American clergyman, classmate of Oliver Cromwell at Cambridge University; born in Lancashire, England, about 1592; was suspended for nonconformity and came to Massachusetts in 1636. A brother-in-law of Anne Hutchinson, and defender of her religious opinions, he was banished from Massachusetts for seditious preaching, and founded Exeter on the Squamscott. He died in Salisbury, N. H., Nov. 15, 1679.

Wheelwright, John Tyler, an American author; born in Roxbury, Mass., Feb. 26, 1856; was graduated at Harvard College in 1876; admitted to the bar in 1879; filled various public offices. He wrote: "New Chance Acquaintance"; "A Bad Penny"; etc.

Whelk, a popular name for a number of marine gasteropods, and especially applied to species of Buccinum common on the coasts of Northern seas. The well-known common whelk is often dredged for bait or as food for the poor. It occurs from low water to a depth of about 140 fathoms, and burrows in the sand for bivalves, on which it feeds.

Wherry, a light, shallow boat, seated for passengers, and plying on rivers; also a light, half-decked fishing vessel, used in different parts of Great Britain and Ireland.

Wherry, William M., an American military officer; born in St. Louis, Mo., Sept. 13, 1836; was educated at the University of Missouri and studied law; served through the Civil War; was aide to Gen. John M. Schofield in 1862–1866. He afterward served on frontier duty and won distinction in actions against the Indians. When the war with Spain began he accompanied the army of invasion to Cuba and took part in the battle of San Juan Hill, and in the capture of Santiago. He was promoted Brigadier-General, U. S. A., Jan. 7, 1899, and was retired the same month.

EGG OF COMMON WHELK.

Whetstone, a piece of stone, usually a rectangular slab, used for sharpening cutlery or tools.

Whey, the portion of milk which separates as a thin, greenish, clouded liquid, when by the addition of rennet, as in cheese-making, or other acid substance, the milk curdles and the casein portion takes the form of curd. The whey carries with it the greater part of the milk sugar and some portion of nitrogenous matter in the form of albumen and lacto-protein.

Whig, in English history, a term applied to the members of one of the great political parties in Great Britain. Originally it was a Scotch term, and appears to have been first used in Scotland in the reign of Charles I.

From Scotland the term was transferred to England, and was applied to the political party opposed to the Tories. It was first assumed as a party name by those who were chiefly instrumental in placing William III. on the throne. As a political term it has now almost fallen out of use, being superseded by the term Liberal.

In United States history, the name whig was first applied to the supporters of the cause of the colonies against the English king in the Revolutionary War. The name was doubtless applied to the opponents of the king, from the fact that in England the same name was applied to the opposers of the royal prerogative in the time of James II., who were ultimately successful in unseating that monarch. After the Revolution the name Whig disappeared from politics, and the people of the country divided into Federalists and Democrats. The party platform of both parties, being gradually altered to meet existing exigencies, the name Federalist was dropped and the term Whig again resuscitated and applied to the opponents of the Democratic party. This name was retained till the agitation of the slavery question induced the formation of a new party, advocating the abolition of slavery and composed of recruits from the ranks of both the Democratic and Whig parties. To this new party the name Republican was applied, and after its formation the name Whig disappeared from American politics.

Whipper-in, in fox hunting, one who keeps the hounds from wandering, and whips them in, if necessary, to the line of scent. In politics, one who enforces party discipline among the supporters of the government or opposition, and urges their attendance.

Whipple, Henry Benjamin, late P. E. Bishop of Minnesota; born in Adams, N. Y., April 15, 1823; died in 1901. Ordained deacon in 1849 and priest in 1850, he soon became well known by his earnestness, devotion and ability as a Christian minister. His work for the evangelization of the Indians and the elevation of the negroes in the South gained for him universal esteem. The Indians called him "Straight Tongue." He became bishop of Minnesota in 1859, and held that place until his death.

Whippoorwill, in ornithology, a bird common in the E. parts of the United States; about 10 inches long; plumage tawny brown, much mottled and indistinctly marked with small transverse bands. The popular name of the bird is derived from the cry, which bears some resemblance to these words.

Whip Snake. They may be readily distinguished by their excessively slender back and tail, which has been compared to the thong of a whip, and long and narrow head, which ends in a protruding rostral shield or in a flexible snout. They are arboreal in habit, usually green in color, and feed on birds and lizards.

Whirlpool, a spot in a river or in the sea in which through obstructions to flowing water, produced by banks, islands, rocks, or by winds and currents, a rotatory motion is imparted to the moving fluid. Revolutions of such a nature on a minute scale, may be seen on nearly every streamlet; but the term whirlpool is used almost exclusively of the same phenomenon on a large scale. There is a tendency to vortical motion below most waterfalls.

Whirligig, or **Whirlgig Beetle,** a beetle which abounds in fresh water in the United States, and may be seen circling round on the surface with great rapidity. Its eyes are divided by a narrow band, so that, though it has only two, it is made to look as if it had four.

Whirlwind, a violent wind moving spirally, as if revolving around an axis, which has at the same time progressive motion. Whirlwinds are produced by two currents of air proceeding in different directions, and the course of the whirlwind is determined by the stronger of the two currents.

Whiskey, an ardent spirit, distilled generally from barley, but sometimes also from wheat, rye, sugar, molasses, etc. There are two varieties — viz., malt whiskey and grain whiskey. The former is of preferred quality, and made principally from malted barley, and sometimes, though rarely, from rye. The latter is cheaper but stronger, and is made from various substances, as sugar, molasses, potatoes, but principally from unmalted grain, as Indian corn, barley, etc., dried and ground up. If kept sufficiently long, it is said to be equal in quality to malt whiskey.

Whiskey Insurrection, the name given to a local outbreak occurring in opposition to the excise law passed by Congress, March 3, 1791. In ad-

dition to the general objections urged against the measure, the inhabitants of Western Pennsylvania considered the tax an unfair discrimination against their region and raised an insurrection, causing President Washington to call out an army of 15,000 militia. This show of an unsuspected vigor and resource on the part of the government forced the insurgents to disperse without bloodshed.

Whispering Gallery, or **Whispering Dome,** a gallery or dome of an elliptical or circular form, in which faint sounds conveyed around the interior wall may be readily heard, while the same are inaudible elsewhere in the interior.

Whist, a game of cards, so called from the silence necessary to play it attentively and correctly. It was formerly also called whisk. It is played by 4 persons. Duplicate whist consists of two separate games played at the same time.

Whistler, James Abbot McNeill, an American painter; born in Lowell, Mass., in 1834; studied for a time at the United States Military Academy; went to Paris, and afterward settled in London. In 1884 he became a member of the Society of British Artists. In 1859 he began to exhibit in the Royal Academy. He exhibited frequently in the Salon, the Academy, the Grosvenor Gallery, the Society of British Artists, and in 1874 and 1892 held exhibitions of his paintings in London. The finest of his oil pictures are "The Artist's Mother — an arrangement in Black and Gray," shown in the Royal Academy of 1872, awarded a gold medal in the Salon of 1884, and purchased for the Luxembourg Gallery in 1891; the "Portrait of Thomas Carlyle," shown in the artist's exhibition of 1874, and purchased by the Glasgow Corporation in 1891; and the "Portrait of Miss Alexander — Harmony in Gray and Green." Whistler's art is original and individual. On Feb. 11, 1902, the Philadelphia Academy of Fine Arts awarded him its Gold Medal of Honor. Died 1903.

Whitaker, Alexander, an American clergyman; born in England, in 1588. He baptized Pocahontas, and officiated at her wedding. He wrote "Good Newes from Virginia," one of the first books written in the colonies. Died in Virginia after 1613.

White, Andrew Dickson, an American diplomatist; born in Homer, N. Y., Nov. 2, 1832. He was graduated at Yale in 1853; travelled in Europe; attache to legation of the United States, St. Petersburg, 1854–1855; studied in the University of Berlin; Professor of History and English Literature, University of Michigan, 1857–1863; returned to Syracuse and elected State Senator, (1863–1867); chosen first president of Cornell University, 1866; has in addition to the presidency filled the chair of modern history; was appointed by President Grant, commissioner to Santo Domingo to study and report on question of annexation, 1871; by President Hayes minister to Berlin, 1879–1881; by President Harrison minister to St. Petersburg, and continued under President Cleveland, 1892–1894; appointed member of the Venezuelan Commission, 1895–1896; ambassador to Berlin under President McKinley, 1897, resigned Aug. 5, 1902; president of the American delegation to the International Peace Congress at The Hague in 1899.

White, Edward Douglas, an American jurist; born in the parish of Lafourche, La., Nov. 3, 1845; was educated at Mount St. Mary's College, Md., and at the Jesuit College in New Orleans. During the Civil War he served in the Confederate army. After the war he practised law. He was State Senator of Louisiana in 1874; associate justice of the Supreme Court of Louisiana in 1878; United States Senator in 1889–1894; associate justice of the United States Supreme Court in 1894–1910; then became Chief Justice of that Court.

White, Eliza Orne, an American author; born in Keene, N. H., Aug. 2, 1856; was educated under public and private tutors and devoted herself to literature.

White, Greenough, an American educator; born in Massachusetts in 1863; became an Episcopal clergyman. He was Professor of Literature and of Ecclesiastical History at the University of the South, Sewanee, Tenn., 1885–1894. Died 1901.

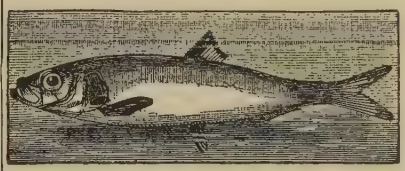
White, Henry, diplomat, born in Baltimore, Md., Mar. 29, 1850. He received a private education in the United States and France; served with unobtrusive success in diplomatic positions in Vienna, 1883–4, London, 1884–93, and again after 1897; was the United States representative in the International Conference on Moroccan affairs at Algeciras in 1906; and was Ambassador to Italy in 1905–1907, and to France in 1907–1909.

White, Horace, an American editor; born in Colebrook, N. H., Aug. 10, 1834. He settled in Chicago, was editor of the Chicago "Tribune" (1864–1874); and editor-in-chief of the New York "Evening Post" in 1883–1903. He wrote many pamphlets and essays on political, social, and financial topics.

White, Richard Grant, an American Shakespearean scholar; born in New York city, May 22, 1822. His journalistic work was in connection with the New York "Courier and Enquirer" (1851–1858), and "World" (1860–1861); and the London "Spectator" (1863–1867), for which he wrote "Yankee Letters." Among his published books are: "Memoirs of the Life of William Shakespeare, with an Essay towards the Expression of His Genius," etc., "Words and their Uses," "The Riverside Shakespeare," with biography, introductions and notes; an annotated edition of Shakespeare, etc. He died in New York city, April 8, 1885.

White, William, an American clergyman; born in Philadelphia, Pa., April 4, 1748. He was graduated at the College of Philadelphia in 1765; completed his theological studies in 1770; and went to England to obtain holy orders. The degree of D. D., the first honorary degree of the University of Pennsylvania, was conferred on him in 1782. During the Revolutionary War, Dr. White sided zealously with the colonies. In 1786 he was elected bishop, being consecrated in Lambeth palace, England, in 1787. He lived to see the Church in the States thoroughly organized, consecrating 11 bishops. He died in Philadelphia, July 17, 1836.

White Ants, in entomology, a popular name for any of the Termitidæ. But they belong to different orders, the venation of the wings being different. A white ant looks not unlike a soft immature earwig, but without the forceps. They constitute the most destructive insect pests to be found in the tropics. They do not attack human beings, their ravages being confined to property. They make their way into houses through some minute aperture which they have formed in the floor or in the wall. Up to the moment of emergence they give no indication of their existence, and when they come forth, which they do in thousands, they take every means in their power to shun observation, while busily engaged in destructive work. Nothing external may reveal the fact that the joists or rafters on which they have been operating are weakened and rendered unsafe by being all pierced internally with their galleries. If they can effect an entrance into a library they bring up mud and construct tunnels with it so as to glue one book to another, and eat away the leather or cloth by which the boards were affixed to the book itself, besides rounding off the angles of a number of the volumes. Every historical document in tropical regions is in danger from these destructive creatures.



WHITEBAIT.

Whitebait, the name by which the fry of the herring, and sprat are known in the market, and when served for the table.

Whiteboys, the name of an illegal association formed in Ireland about 1760. The association consisted of starving day laborers, evicted farmers, and others in a like condition, who used to assemble at night to destroy the property of harsh landlords or their agents, the Protestant clergy, the tithe collectors, or any others

that had made themselves obnoxious in the locality.

White Brethren, in Church history, a body of enthusiasts who appeared in Italy at the beginning of the 14th century, and, under the leadership of a priest claiming to be Elias, declared a crusade against the Turks in order to obtain possession of the Holy Land. They were met at Viterbo by the papal troops, and were dispersed. Their leader was carried to Rome, where he was burnt as a heretic in 1403.

White-candlewood, a large tree with pinnate leaves and bunches of purple pear-shaped fruits. The juice of the tree is as black as ink; its wood has a pleasant smell and takes a fine polish. It grows in the Carolinas.

White Caps, lawless bands in Southern Indiana, who, from 1880, undertook the regulation of the manners and morals of that section. They met in secret places, wore regalia which they donned in the woods, rode by night, attempted to regulate the people with whom they lived, and held their hands against society and law. These regulators of the morals of their neighborhoods dressed differently in different parts of the country which they terrorized. Where they were regularly organized and did the most mischief, around English and Marengo, they had nearly a full uniform, a complete regalia. They wore white paper foolscaps, with paper masks, and coats of coffee sacking. To make the coats they merely cut arm or sleeve holes in the sides of coffee sacks close to the bottoms and holes in the bottoms to put their heads through. The whole White Cap movement was borrowed from English outlawry.

Whitechapel, a celebrated parish of London, England, where the mysterious "Jack the Ripper" operated in 1888–1891. It contains the Tower of London.

White City, a popular name given to the grounds on which the World's Columbian Exposition was held, because white was the predominating color of the exterior of the buildings.

White Clover, a perennial creeping plant, sometimes a foot and a half high, the leaflets obovate or obcordate, toothed, sometimes with a semilunar band at the base; flowers white or somewhat roseate.

White Colors. The principal white pigment, and the most important of all painters' colors, is white lead. Zinc white or Chinese white is a hydrated oxide of zinc, and pearl white is yielded by the nitrate of bismuth. A fine chalk yields Spanish white, and whiting is ground chalk.

White Cross, an organization similar in many respects to the famous Red Cross, from which it differs chiefly in the fact that it is distinctly American. It was founded in 1898 by Mrs. Jane Creighton, of Portland, Or., who became its first president. Its emblem is designed to represent the cross bandages of white on the blood-red field of war, encircled by the blue of the firmament, comprising the triple color of the Union. The motto of the organization is "Truth, Charity and Philanthropy," and its purposes include not only the caring for wounded and sick American soldiers and sailors, but the aiding of the widows and orphans of those who are killed in battle or die of disease or accident. The organization is self-supporting, and all it asks of the National government is recognition and protection.

White Cross Society, a society instituted in or about 1883, at Bishop-Auckland, England, to urge on men the obligation of personal purity; to raise the tone of public opinion on questions of morality; and to inculcate a respect for womanhood.

White Elephant, an elephant affected with albinism. Such animals appear to have been known to the ancients. They are highly esteemed by some Eastern potentates, and are considered sacred in Siam. A specimen purchased by the late P. T. Barnum from King Theebaw of Burma was brought to the United States in 1884. It is generally reported that when the King of Siam desires to ruin any one, he makes him a present of a white elephant. The sacred elephant has an enormous appetite, and, being sacred, it is a crime to let it die, so that the gift generally entails ruin on the recipient.

White Feather, the symbol of cowardice, a term introduced in the days when cock fighting was in vogue. As a thoroughbred game cock has no white feathers, a white feather was a proof that the bird was not game.

Whitefield, George, an English clergyman; born in Gloucester, England, Dec. 16, 1714. At the age of 18 he entered as servitor at Pembroke College, Oxford, where he became acquainted with the Wesleys, and joined the small society which procured them the name of Methodists. He was ordained deacon in 1736, and soon became very popular as a preacher. In 1738 he went to the American settlement of Georgia, where his ministrations gave great satisfaction to the colonists. In the following year he returned to England to procure subscriptions for building an orphan house in the settlement. Having taken priest's orders, he repaired to London, where the churches in which he preached proved incapable of holding the crowds who assembled to hear him. He now adopted preaching in the open air, and visited various parts of the country, addressing vast audiences. In 1739 he again embarked for America, and made a tour through several of the provinces, preaching with great effect to immense crowds. He returned to England in the following year, where for a time differences between him and Wesley deprived him of many followers. After visiting many parts of England, Scotland, and Wales he again returned to America, and remained there nearly four years. Soon after his return he was introduced to the Countess of Huntingdon, who made him one of her chaplains. A visit to Ireland and two more voyages to America followed, and for several years his labors were unremitting. He was the founder of the Calvinistic Methodists. At length, on his seventh visit to America, he died in Newburyport, Mass., Sept. 30, 1770.

White Hats, The, in Flanders, in the 14th century, the badge of the democratic party, led by Jacob van Artevelde, the great brewer of Ghent, who was elected their captain in 1338, and was assassinated in 1345. Their next captain was John Lyon, who was supposed to be poisoned by the court party in 1381. Philip van Artevelde, son of the great brewer, next assumed the white hat of the party. He was slain in the battle of Rosebeque, in November, 1382.

White House, a name applied to the presidential mansion in Washington, D. C. The name arose from the fact that it is built of stone and painted white. The corner stone was laid in 1792; the house was first occupied by President Adams in 1800; burned by British troops in 1814; and restored in 1818. In 1902 and 1909 the building was enlarged by one-story wings to accommodate the immediate Presidential offices. By metonymy the name has been applied to the office of the Presidency itself. There are several other mansions and plantations in the Southern States which have borrowed this title.

White Lady, a spectral figure which, according to popular legend, appears in many of the castles of Germany and elsewhere, by night as well as by day, particularly when the death of any member of the family is imminent. She is regarded as the ancestress of the race, shows herself always in snow-white garments, carries a bunch of keys at her side, and sometimes rocks and watches over the children at night when their nurses sleep. The earliest historical instance of this apparition occurred in the 15th century, and is famous under the name of Bertha of Rosenberg (in Bohemia). The White Lady of other princely castles was identified with Bertha, and this was accounted for by the intermarriages of other princely houses with members of the house of Rosenberg.

White League, the name given a semi-military organization, gathered to repress the negroes of the State of Louisiana, who, it was asserted, were meditating insurrection. The organization had its inception in the city of New Orleans, in 1874, and on the refusal of the city authorities to allow the landing of a cargo of firearms, which the league had imported from New York, a riot ensued which resulted in more than 100 deaths. The league afterward became a powerful factor in Louisiana politics.

White Leprosy, in pathology, leprosy characterized by morbid whiteness of the skin. It does not exactly correspond to the ancient description, but diseases often somewhat alter their character.

White Light, the apparently simple sensation which is nevertheless really produced on the retina by a certain mixture of colors. Ordinarily white light is composed of the whole of the visible colors of the spectrum, as in sunlight; and the fact of white resulting from this mixture can be demonstrated in many ways, as by reuniting the spectral colors themselves, or by revolving rapidly a disk painted with the colors in separate sectors. A similar mixture of pigments fails, partly because the pigments themselves are never pure colors, and partly and chiefly because pigments act rather as absorbents of the light reflected from the paper or other colors underneath than as additional illuminating colors.

White Mountains, a mountain chain of New England, regarded as an outlier of the Appalachian range commences at the head waters of the Aroostook river, in Maine, where its first summit is Mount Katahdin, and extends in a broad plateau from 1,600 to 1,800 feet high nearly across New Hampshire, where it has 20 bold peaks, with deep narrow gorges, wild valleys, beautiful lakes, lofty cascades and torrents, forming the "Switzerland of America," and a favorite resort of summer tourists. Mount Washington is the highest summit in New England. These mountains furnish the chief sources of the Connecticut, Merrimac, and Androscoggin rivers. The rocks are ancient metamorphic, with naked granite and gneiss. There are five "notches," or passages, through the mountains: the White Mountain notch, through which the Saco river passes; the Franconian notch, which permits the passage of the Pemigewasset; the Pinkham notch and the Grafton and Dixville notches, through which flows the Androscoggin. A carriage road has been constructed to the summit of Mount Washington on the E. side, and a railroad on the W. side, the latter completed in 1869. The White Mountains were first visited by white men in 1642, but no settlements were made in the region till about 1771. Since 1868 the mountains have been explored by the New Hampshire Geological Survey. There is a meteorological station on the summit of Mount Washington.

White Pass, a pass over the coast range of Alaska, about 10 miles S. of Chilkoot Pass. It was first regularly used in 1897 by travelers to the Klondike gold regions. A wagon road was constructed over it in 1898.

White Plains, village and capital of Westchester county, N. Y.; on the New York Central & Hudson River railroad; 22 miles N. N. E. of the Grand Central depot, New York City; is historically known as the scene of a battle, Oct. 28, 1776, in which the British caused the Americans to retreat. Pop. (1910) 15,949.

White Ribbon Gospel Army, a religious sect or Christian society giving special attention to moral purity. They first opened places of worship in England in 1884, and have since extended to the United States.

White Shark, one of the largest and most formidable of the family of sharks. It is a native of tropical and sub-tropical seas.

White Swelling, the popular name for all severe diseases of the joints resulting from chronic inflammation in the bones, cartilages, or membranes constituting the joint.

Whiting, fine chalk pulverized and freed from all impurities by elutriation. It is used in whitewashing, distemper painting, cleaning plate, etc.

WHITING.

The fish called the whiting is met with on all the coasts of Northern Europe, and is caught in great numbers with hook and line. The fish derives its English name from the pearly whiteness of its flesh, which is highly es-

teemed, and large quantities of which are salted and dried.

Whiting, Henry, an American military officer; born in Lancaster, Mass., in 1790. He served with credit in many grades, and retired with the rank of brevet Brigadier-General. Died in St. Louis, Mo., Sept. 16, 1851.

Whiting, Lilian, an American author; born in Niagara Falls, N. Y., Oct. 3, 1857. She was literary editor of the Boston "Traveler" in 1880–1890, and editor of the Boston "Budget" in 1890–1894. She then traveled in Europe. Her publications include "Kate Field: a Record"; "The Spiritual Significance"; etc.

Whitman, Marcus, an American pioneer; born in Rushville, N. Y., Sept. 4, 1802. In 1836 he emigrated with a number of others to work as a missionary among the Indians of the Upper Columbia. Accompanied by his young wife he crossed the plains by wagon, being the first person to reach the Pacific by this means. He was soon followed by a large number of emigrants who settled in what was then known as Oregon, and which now forms the States of Oregon, Washington, and Idaho. At this time the Hudson Bay Company were using every possible means to secure this territory to the English. When this plan became evident to Dr. Whitman he decided to take every precaution to forestall it. The Ashburton-Webster treaty was then before Congress and was expected to settle the Oregon question. Knowing that the government should have full information as to the true state of affairs, Whitman rode over 3,000 miles on horseback, enduring all the hardships of a Western winter in the mountains, and reached Washington on March 3, 1843, only to find that the treaty had been signed. Fortunately the Oregon question had not been included. Dr. Whitman at once went to work and taught the government the value of the land it had deemed worthless, demonstrated to the people the fertility of the soil of Oregon, and the fact that it could be reached by wagon, and then returned at the head of 1,000 emigrants. By his daring ride and his earnest endeavors Dr. Whitman won this great section for the United States, and the results of his work were secured by the treaty of 1846. In 1847, with his wife and some others, he was massacred by the Cayuse Indians.

Whitman, Sarah Helen Power, an American poet; born in Providence, R. I., in 1803. She married John W. Whitman, a Boston lawyer; was once engaged to Edgar Allan Poe, afterward writing a defense of him entitled "Edgar A. Poe and his Critics" (1860); and was noted for her conversational powers. She published several volumes of poems. Died in Providence, R. I., June 27, 1878.

Whitman, Walt, an American poet; born in West Hills, Long Island, N. Y., May 31, 1819. Like many another man of genius Whitman seems to have owed little to his formal education, as he left school at the age of 12 to serve first in a lawyer's and then in a doctor's office, and finally in a printer's as an apprentice. But that he profited by such schooling as he had is shown by the fact that his next employment was that of itinerant teacher in country schools. He returned shortly to his printing, with spells of summer holiday and even farm work, and in 1846 became editor of the Brooklyn "Eagle." This and his other numerous press engagements were only of short duration, a certain restlessness, making him pass rapidly from one post of employment to another. He even built and sold houses at one time. All along haunted by the yearning and sense of obligation to produce a life work, Whitman seemed quite unable to find full and free expressions for his emotions and thought till he hit upon the curious, irregular, recitative measures in which he composed the "Leaves of Grass." When first issued in 1855 this unique publication was but a small quarto of 94 pages, but it grew in the course of the seven succeeding editions till it contained nearly 400 pages. The later and complete editions, taken together with his prose book "Specimen Days and Collect," may be held to embrace the life work of Whitman as a writer. Summoned to tend his own brother, wounded in the Civil War, he became the brother nurse to every

wounded or sick man in the Union army. About the close of the war he received a subordinate clerkship under the government, and was summarily dismissed by Secretary Harlan as the author of "an indecent book"; though he fortunately obtained a similar post almost immediately. In 1874 he left Washington for Camden, N. J., where he lived till his death, March 26, 1892.

Whitman College, a coeducational institution in Walla Walla, Wash.; founded in 1859 under the auspices of the Congregational Church.

Whitney, Adeline Dutton (Train), an American author; born in Boston, Mass., Sept. 15, 1824. Besides writing for magazines, she published: "Faith Gartney's Girlhood"; "A Summer in Leslie Goldthwaite's Life," etc. She died in 1906.

Whitney, Eli, an American inventor; born in Westboro, Mass., Dec. 8, 1765; was graduated at Yale College, in 1792, where he paid his expenses partly by school teaching, partly by mechanical labor. He went to Georgia as a teacher, but finding a generous patron in the widow of General Greene, of the Revolutionary army, he resided on her estate and studied law. The cotton culture at this period was limited by the slow and difficult work of separating the cotton from the seed by hand. Whitney set to work to remedy this under great disadvantages, but the reports of his success prompted some lawless people to break into his workshop and steal his machine, and get others made before he could secure a patent. He formed a partnership with one Miller in 1793, and went to Connecticut to manufacture cotton gins; but the lawsuits in defense of his rights carried off all his profits and $50,000 voted him by the State of South Carolina. Finally in 1798 he obtained a government contract for the manufacture of firearms, and was the first to effect the division of labor by which each part was made separately. He made a fortune by this manufacture, carried out with ingenious machinery at Whitneyville, Conn. He died in New Haven, Conn., Jan. 8, 1825.

Whitney, Henry Howard, an American military officer; born in Glen Hope, Pa., Dec. 25, 1866; was graduated at the United States Military Academy and commissioned lieutenant 4th United States Artillery in 1890. He was on special duty at the War Department from April 1, 1896, till April 11, 1898, when he was detailed as military attache to the United States legation at Buenos Ayres, Argentine Republic. He communicated with General Gomez and made military reconnoissance of the island of Porto Rico. He served throughout the Spanish-American War on General Miles' staff as captain and assistant-adjutant-general.

Whitney, Josiah Dwight, an American geologist; born in Northampton, Mass., Nov. 23, 1819; was graduated at Yale in 1839, and the year after joined the survey of New Hampshire. The years 1842–1847 he spent in study in Europe, returning to explore, together with J. W. Foster, the Lake Superior region. Whitney next spent two years traveling in the States E. of the Mississippi. He was appointed State chemist and professor in the Iowa State University in 1855. In 1858–1860 took part in the survey of the lead region of the Upper Missouri. He was appointed State Geologist of California in 1860. In 1865 he was appointed to the chair of geology at Harvard, received the L.L. D. degree from Yale in 1870, and had the honor of giving his name to one of the highest mountains in the United States. He died at Lake Sunapee, N. H., Aug. 18, 1896.

Whitney, William Collins, an American capitalist; born in Conway, Mass., July 15, 1841; was graduated at Yale College in 1863, and at the Harvard Law School in 1865; studied law in New York city, and was there admitted to the bar. He took an active part in the proceedings against the "Tweed Ring"; served as corporation counsel in 1875–1882; and was Secretary of the Navy in 1885-1889. He died Feb. 2, 1904.

Whitney, William Dwight, an American educator; born in Northampton, Mass., Feb. 9, 1827; was graduated at Williams College in 1845; spent some years abroad in study; in 1854 was made Professor of Sanskrit at Yale, in 1870 of com-

parative philology, holding both positions till death. His writings are authority on all philological questions, and his rank as a Sanskrit scholar is of the first order. His contributions to the "North American Review," the "New Englander," and other periodicals, were numerous and varied. Professor Whitney was the superintending editor of the "Century Dictionary" (1889–1891), and assisted in the preparation of "Webster's Dictionary" (1864). He died in New Haven, Conn., June 7, 1894.

Whitside, Samuel Marmaduke, an American military officer; born in Toronto, Canada, Jan. 9, 1839; entered the United States army in 1858; served with the 6th United States Cavalry through the Civil War; and was afterward engaged for more than 25 years in the Indian wars on the Western frontier. He was in command of the 5th United States Cavalry during the Spanish-American War; and in October, 1898, took command of the 10th Cavalry and accompanied that regiment to Cuba in May, 1899, where he was placed at the head of the Department of Santiago and Puerto Principe in January, 1900. He became Brigadier-General in 1901. Died at Washington, D. C., Dec., 1904.

Whitsunday, the seventh Sunday after Easter; a festival of the Episcopal Church in commemoration of the descent of the Holy Spirit on the day of Pentecost.

Whittemore, Thomas, an American clergyman; born in Boston, Jan. 1, 1800. He was joint editor of the "Universalist Magazine," sole editor and proprietor of the "Trumpet"; member repeatedly of the Massachusetts Legislature. He died in Cambridge, March 21, 1861.

Whittier, John Greenleaf, an American poet; born near Haverhill, Mass., Dec. 17, 1807. The son of a poor farmer, who was also shoemaker, young Whittier obtained his education with that struggle which seems to foster genius, while the bodily frame that so well served him till his decease was developed and hardened by his healthy, outdoor life. He had a notable schoolmaster in Joseph Coffin, an enthusiastic collector of all local legends and antiquities, adding to wild nature the weirder interest of strange dark, and thrilling human deeds and dread-born superstitions. For his technical education Whittier was apprenticed to journalism, beginning with contributions to the "Poet's Corner" and as early as 1829 undertaking the editorship of the "American Manufacturer"; and in 1830 that of the "New England Weekly Review," published in Hartford, Conn. His next move was a return to his native town to a similar post on the Haverhill "Gazette" in 1832, after having published in the previous year "Legends of New England" and "Moll Pitcher." Long before this his poetry had attracted the admiration of William Lloyd Garrison, who rode over from Newburyport to see Whittier when quite a lad, and became his life-long friend. So it fell out that, if Garrison may be called the preacher or prophet, Whittier must be wreathed the poet laureate of abolition. Apart from this strenuous and heroic struggle there is nothing epoch making in Whittier's life literary or personal. He died in Hampton Falls, N. H., Sept. 7, 1892.

Whortleberry, small shrubs of two genera. The species are numerous, mostly natives of the northern parts of the world, with evergreen or deciduous, more or less ovate leaves. The common whortleberry, or bilberry, of the genus Gaylussacia, varies from a few inches to almost two feet in height, and has ovate deciduous leaves, and dark purple berries, covered with a mealy bloom. A variety occurs, but rarely, with white berries. The berries are very sweet and agreeable, and are much used for making jelly and tarts. The red whortleberry (Vaccinium vitis-idæa), also called cowberry, is found in the United States and Europe. The berries, dark red in color, are acid, somewhat austere, and not so agreeable as the bilberry; yet they make an excellent jelly, and are much used as an accompaniment to venison and other roast meats. The whortleberries of the genus Gaylussacia are commonly called huckleberries in North America.

Whydah Bird, or **Widow Bird,** the common name of a family comprising beautiful birds, inhabiting

Western Africa, and particularly abundant in the country of Whydah, whence their name, of which widow is a mere corruption. The body of the whydah bird is generally about the size of a canary bird, but the male is remarkable for an astonishing development of plumage during the breeding season, after which its splendid tail drops off, and the sexes are then barely distinguishable.

Wiard, Norman, an American inventor; born in Normandale, Ontario, Canada, in 1826; was early employed as a foreman in a foundry in Bradford, Ontario, and there began the series of experiments in founding ordnance that afterward gave him his world-wide distinction. During the Civil War he was employed by the United States government in the manufacture of ordnance and projectiles. After the war he applied himself to experiments and inventions in his special lines; patented a device for preventing the explosion of steam boilers, which he sold to the United States and Japanese governments; spent two years in Japan in the government employ; and on his return to the United States conducted a series of experiments in gunnery near Boston, Mass., which attracted wide attention. He died Sept. 11, 1896.

Wichita, city and capital of Sedgwick county, Kan.; on the Arkansas river and several railroads; 160 miles S. W. of Topeka; is in a wheat, corn, and stock-raising section; is a leading trade distributing center of the State; manufactures bridge and iron work, railroad cars, brick, lumber, and watches; and contains Wichita University, Fairmount College, All Hallows and Lewis academies, and a Federal Building. Pop. (1910) 52,450.

Wickersham, George Woodward, an American lawyer; born in Pittsburg, Pa., Sept. 19, 1858; began practice in Philadelphia in 1880; settled in New York city in 1882; became a special and general counsel for several large railroad corporations; appointed Attorney-General of the United States in 1909.

Widener, Peter A. Brown, an American capitalist; born in Philadelphia, Pa., Nov. 13, 1834. He became president of the West Philadelphia Passenger Railway Company, vice-president of the Union Passenger and the Philadelphia Traction Companies; a director of the Continental and Empire Passenger Companies; and in 1902 was head of a syndicate organized to acquire large street railroad interests in New York city. In 1897, he gave his city residence in Philadelphia for a branch of the Free Lending Library; in 1898 presented a collection of 500 rare books to the library; and in 1899 undertook the erection and endowment of a combined home, hospital and industrial school, in Philadelphia.

Widow's Dower. The right of a widow to a share for life or in fee simple in the real estate of her deceased husband, and to a part or all of the personal estate. The widow's interest in the late husband's property is governed by the laws of the several States, which differ widely on this subject, the general tendency of American statutes being, however, to liberal treatment of the widow and to protect her from injustice on the part of other heirs.

Widow Monkey, the Callithrix lugens, from South America. It has been compared to a diminutive black dog with a white face; the neck and fore limbs are also white, and this disposition of color has given rise to the popular name bestowed on the animal by the Creoles, who see in the whiteness of the face, neck, and arms, some resemblance to the veil, handkerchief, and gloves worn by widows of their own race.

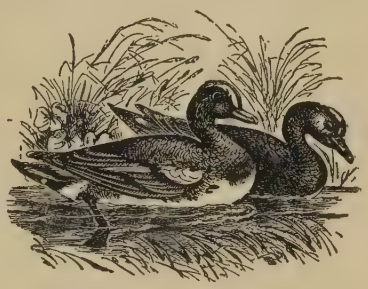
Widow Sacrifice, a form of funeral sacrifice in which the widow was slain or induced to commit suicide so that she might be buried with her husband and accompany him to the world of spirits. This practice is mentioned as existing among the Greeks by Euripides and Pausanias, and from Cæsar it may be inferred that it existed also in Gaul. Widow sacrifice is still the custom in many African tribes; traces of it may be found in China; it lingered till late in the first half of the 19th century in Fiji, and though abolished by law in British India in 1829, is not yet abandoned.

Wiesbaden, a town of Prussia, province of Hesse-Nassau; until

1866 capital of the independent duchy of Nassau; on the S. W. spurs of the Taunus Mountains, 377 feet above the sea; 6 miles W. of Mainz. The chief attraction at Wiesbaden is its mineral springs. The German emperor, William II. and Czar Nicholas II. of Russia, had a cordial meeting at Wiesbaden, in November, 1903, which was regarded as tending to maintain peace between the powers of Europe.

Wig, a covering for the head, not merely to conceal baldness, but, like elaborate coiffures of the natural hair, to add to the dignity or formidableness of the wearer. Wigs are found on Egyptian mummies, and are indicated in Assyrian sculptures and passed from Persians, Medes, Lydians, and Carians to Greeks and Romans. But the wigmaking and wigwearing as known to moderns originated in France, and the palmy days of wigs were in the 17th and early 18th centuries. Louis XIV. wore a wig till then of unparalleled size. The English full dress wig of Queen Anne's time was similar; and this cumbrous type survives in the full-dress flat-bottomed wig of English judges, which has flaps of 20 or more rows of stiff and formal curls hanging down in front. Another form was the bag wig — the lower part of the wig being tucked into a silken bag on the shoulders. When the wearing of wigs was fully established small boys of the well-to-do classes went to school in wigs and cocked hats. In the early part of George III.'s reign it became more and more usual for private persons to do without wigs, wearing their own hair powdered and tied or looped up like a wig; professional men, especially doctors, stuck longer to them. Just before the French Revolution, which dealt the final death-blow to wig-wearing, a gentleman's wig would cost from $150 to $200. Wigs to supply natural deficiency of hair are made of human hair. Stage wigs are often made of jute.

Wigeon, one of the most popular birds with the American sportsman. Length about eighteen inches; the male has the forehead and top of head white, cheeks and hind part of the neck reddish-chestnut, upper parts grayish-white, irregularly zigzagged with black, wing coverts white tipped with black, primaries dark brown, speculum green, edged with black; throat rufous, breast and belly white; the female has sober plumage of various shades of brown. The wigeon is one of the commonest ducks of the extreme N. of Europe, frequenting grassy swamps, lakes, and rivers, and feeding in the daytime, chiefly on aquatic vegetation. The American



MALE AND FEMALE WIGEONS.

wigeon is larger than the European or common wigeon, and has the upper parts finely waved transversely with black and reddish-brown, top of head and under parts white. It breeds chiefly in the N. parts of America and is common in winter on the coasts of the United States and in the rice fields. The flesh of both species is esteemed for the table, and they are hunted both for food and for sport.

Wiggin, Kate Douglas, an American author; born (Smith) in Philadelphia, Pa., Sept. 28, 1857. Her youth was spent in Hollis, Me., and she attended Abbott Academy in Andover, Mass. She went to California in 1876, where she studied the kindergarten system in Los Angeles; later, she taught a year in Santa Barbara College; then went to San Francisco, where she organized the first free kindergarten in the West. In 1880 she organized the California Kindergarten Training School. In 1880 she married S. B. Wiggin, a lawyer, and they moved to New York, where Mr. Wiggin died in 1889. In 1895 Mrs. Wiggin married George C. Riggs. She has written many stories and books on and for the kindergarten.

Wigglesworth, Michael, an American clergyman; born in Yorkshire, England, Oct. 18, 1631. His best-known work, "The Day of Doom" (1662), was a popular poem in New England for a long period. He died in Malden, Mass., June 10, 1705.

Wight, Orlando Williams, an American editor; born in Centerville, N. Y., Feb. 19, 1824. A Universalist minister originally, he practised medicine in Wisconsin, where he was appointed State geologist and surgeon-general in 1874; health commissioner of Milwaukee, 1878–1880; later he was health officer of Detroit. He wrote: "Lives and Letters of Abelard and Heloise"; "Maxims of Public Health"; etc. He died in Detroit, Mich., Oct. 19, 1888.

Wight, Isle of, an island off the S. coast of England; in the county of Hants; separated from the mainland by Spithead and the Solent; 23 miles in length, 13 miles broad; area, 93,341 acres. The general appearance is picturesque, and the geology of the island is interesting. The air is remarkably mild, and the district known as the Undercliff, lying along the S. coast, and completely sheltered from the N. has long been a resort for invalids. Near Cowes is Osborne House, which was a favorite residence of Queen Victoria.

Wigwam, an Indian hut or cabin. They are generally of a conical shape, formed of bark or mats laid over stakes planted in the ground, and converging toward the top, where there is an opening for the escape of the smoke. The word has also been applied to a large temporary structure for public gatherings; as, the wigwam in which the Democratic National Convention was held in Chicago, in the year 1892.

Wilberforce University, a co-educational institution in Wilberforce, O.; for colored students; founded in 1856 under the auspices of the Methodist Episcopal Church.

Wilbour, Charles Edwin, an American Egyptologist; born in Little Compton, R. I., March 17, 1833. He was associated with the New York journals up to 1872, when he began the study of Egyptian antiquities; and was afterward the companion of Brugsch Bey and Maspero in many exploring expeditions in Upper Egypt. Died in Paris, France, Dec. 17, 1896.

Wilburites, a section of American Quakers, named from their leader, John Wilbur, who separated from the main body in the first half of the 19th century on the ground that the Quakers were abandoning their original principles.

Wilcox, Ella Wheeler, an American poet; born in Johnstown Center, Wis., about 1855. She contributes much to current periodicals, and her poems are widely copied. Some of her volumes are: "Maurine"; "Poems of Passion," and "Poems of Pleasure"; "Drops of Water"; "Sweet Danger"; etc. She has also published a novel.

Wilcox, Robert William, an American statesman; born in Kuhulu, Honolulu, Hawaii, Feb. 15, 1855; was graduated at the Royal Military Academy, Turin, Italy, in 1885; returned to Hawaii and in 1889 headed the revolution in Honolulu to restore the old constitution. In 1895 he commanded the revolutionists in an effort to restore Queen Liliuokalani, in their struggle with the Dole government; was captured and sentenced to death; but at the request of the United States government, President Dole commuted the sentence to imprisonment for 35 years, with $10,000 fine. In 1896, he was pardoned, and in 1901 was elected the delegate in Congress for Hawaii. He died in 1903.

Wilde, George Francis Faxon, an American naval officer; born in Braintree, Mass., Feb. 23, 1845; was graduated at the United States Naval Academy in 1864; attached to the steam sloop "Susquehanna" of the Brazil squadron in 1865–1866; promoted master in 1866; lieutenant and lieutenant-commander in 1868; commander in 1885; and captain in 1898. He was given charge of the dispatch boat "Dolphin," in which he made a trip around the world. In 1889 he was made lighthouse inspector. During the Spanish-American War in 1898 he was in command of the ram "Katahdin." In command of the "Boston" he landed the first marines

ever landed in China, and sent them to Peking, where they guarded the legation, November, 1898–April, 1899; captured the city of Iloilo, Philippine Islands, Feb. 11, 1899; captured Vigan, Feb. 18, 1900; and was in command of the "Oregon" when she grounded at an uncharted ledge in Pe-chi-li Gulf. The "Oregon" was badly damaged, but managed to steam 765 miles to the Japanese dock yards.

Wilder, Alexander, an American physician; born in Verona, N. Y., May 13, 1823; was graduated at Syracuse Medical College in 1850. He was president of the Eclectic Medical College, New York (1867); lecturer on physiology (1873–1877); Professor of Physiology and of Psychological Science in the United States Medical College. He died in 1908.

Wilder, Burt Green, an American educator; born in Boston, Mass., Aug. 11, 1841; was graduated at the Lawrence Scientific School; and served in the Union army as medical cadet, assistant surgeon, and surgeon of the 55th Massachusetts Infantry in 1862–1865. In 1863 he discovered a large spider, from which he reeled 150 yards of yellow silk. He became Professor of Neurology, Vertebrate Zoology, and Physiology at Cornell University in 1867.

Wilder, Marshall Pinckney, an American humorist; born in Geneva, N. Y., Sept. 19, 1859; received a fair education, and became a stenographer. He soon developed a remarkable ability as a humorist, which was rendered all the more attractive by his diminutive stature; and for several years he was a popular entertainer, especially in private drawing-room gatherings, both in the United States and England.

Wilderness, a location in Spottsylvania co., Va.; 16 miles W. of Fredericksburg. During the Civil War a sanguinary battle was fought here, May 5 and 6, 1864, between the Federal troops under General Grant, and the Confederates, commanded by General Lee, which, after a terrific struggle, and unprecedented slaughter; particularly on the side of the Federals, resulted in both sides claiming the victory, General Lee, nevertheless, gradually retiring on Spottsylvania. The Federal loss amounted to 18,000 men; that of the Confederates to about 11,000.

Wildes, Frank, an American naval officer; born in Boston, Mass., June 17, 1843; was graduated at the United States Naval Academy in 1863; served on the steam sloop "Lackawanna" in the West Gulf squadron till the surrender of Fort Morgan; and was then detailed to the monitor "Chickasaw," on which he served till the occupation of the city of Mobile in 1865. After the war he served on various stations; was commander of the cruiser "Boston" on the Asiatic station in 1895-1898; and was engaged in the battle of Manila Bay on May 1 of the latter year. He was appointed to the New York navy yard in 1899, promoted rear-admiral in 1901; died in 1903.

Wild Fowl, the name applied to birds of various species, which are pursued as game, but restricted by some authorities to birds belonging to the waders and swimmers.

Wild Goat, a popular name for any undomesticated species of the genus Capra, many of which have been erected into separate genera by some authorities. They are: Spanish ibex, the Sinaitic ibex, the markhoor, the tahr, and the Neilgherry ibex.

Wild Goose, any species of undomesticated goose — especially the Canadian goose, Branta canadensis; bean goose and the graylag. A "wild-goose chase" means the pursuit of anything in ignorance of the course it will take; hence, a foolish pursuit or enterprise.

Wild Horse, any undomesticated individual of the species Equus caballus. According to Darwin, no aboriginal or truly wild horse is known, and the herds of so-called wild horses in Asia are probably, as those in America and Australia are certainly, descended from ancestors which escaped from the control of man.

Wild Hunt, the name given by the German people to a fancied noise sometimes heard in the air at night, mostly between Christmas and Epiphany, as of a host of spirits rushing along, accompanied by the shouting

of huntsmen and the baying of dogs. According to the common legend the wild huntsman appears on horseback, in hat and cloak, accompanied by a train of spirits, often without heads, or otherwise mutilated. When he comes to a crossroad, he falls, and gets up on the other side. Generally he brings hurt or destruction, especially to any one rash enough to address him or join in the hunting cry, as many persons valiant in their drink have done. Whoever remains standing in the middle of the highway, or steps aside into a tilled field, or throws himself in silence on the earth, escapes the danger. The legend has also in recent times attached itself to individual sportsmen, who, as a punishment for their immoderateness or cruelty in sport, or for hunting on Sunday, were condemned henceforth to follow the chase by night. In Lower Germany there are many such stories current. In one form or other the legend of the wild hunt is spread over all German countries, and is found also in France, and even in Spain. In England we meet substantially the same notion in folklore — phantom dogs, headless horses, a ghostly coach and horses swept along in a storm of wind.

Wild Sheep, any undomesticated species of the genus Ovis. They are distinguished by their greater size, massive horns present in both sexes, shorter tail, and in some cases by a beard and mane. The most noteworthy are the wild sheep of the Alpine ranges and plateaux of Central Asia, the wild sheep of Kamtchatka and Northwestern America, the argabi or bighorn, the mouflon of Corsica and Sardinia, the burrhel, the Barbary sheep, and Marco Polo's sheep from Central Asia.

Wiley University, a coeducational institution for colored students, in Marshal, Tex.; founded in 1873 under the auspices of the Methodist Episcopal Church.

Wilkes, Charles, an American naval officer; born in New York city, April 3, 1798; entered the navy in 1816 and became a lieutenant in 1826. In 1838 he commanded an exploring expedition sent by the United States government to the Antarctic regions. He visited South America, Samoa, the Fiji, Hawaiian, and other islands in the Pacific; and made a voyage around the world, returning in 1842. He became commander in 1843, and captain in 1855. In 1861, while in command of the "San Jacinto," he intercepted the British steamer "Trent" and took as prisoners J. M. Mason and J. Slidell, Confederate commissioners to Europe. In 1862 he was promoted commodore, after which he commanded a squadron in the West Indies. In July, 1866, he was made a rear-admiral. He died in Washington, D. C., Feb. 8, 1877.

Wilkesbarre, a city, the seat of Luzerne Co., Pa., on the north branch of the Susquehanna, about 144 miles N. W. of Philadelphia. It is the center of a rich anthracite coal-field, and has manufactures of machinery, locomotives, cars, mining engines and tools, iron castings, ropes, brewery products, etc. Pop. (1910) 67,105.

Wilkie, John Elbert, an American Secret Service agent; born in Elgin, Ill., April 27, 1860; began newspaper work on the Chicago "Times" in 1877; was on the Chicago "Tribune" in 1881–1893; engaged in banking and the steamship business in London, England, in 1893–1896; and in the latter year returned to the United States and resumed his work on the Chicago newspapers, making a specialty of criminal investigation. In 1898, he became chief of the United States Secret Service, and during the Spanish-American War broke up the Spanish spy system in the United States.

Wilkinsburg, a borough in Allegheny county, Pa.; on the Pennsylvania railroad; 7 miles E. of Pittsburg, with which it has much business and residential interests in common, and has coal-mining nearby. Pop. (1910) 18,924.

Wilkins-Freeman, Mary Eleanor, an American author; born in Randolph, Mass., in 1862. Her works, studies of New England country life, are: "The Love of Parson Lord"; "Understudies"; etc. She was married to Dr. Charles M. Freeman, Jan. 1, 1902.

Wilkinson, William Cleaver, an American educator; born in Westford, Vt., Oct. 19, 1833; was graduated at the University of Rochester in 1857; and in 1873 became dean of the Department of Literature and Art in the Chautauqua University, for which he prepared many text-books. In 1892 he became Professor of Poetry at Chicago University.

Will, in law, the declaration, in proper form, of what a man wills to be performed after his death; usually spoken of as the "last will and testament."

Will, a mental phenomenon of which there are recognized three orders or classes; Cognition, feeling, and will. The first includes all the ways in which facts and relations become known; the second refers to the way in which the mind is affected as regards pleasure and pain; to the third, or will, belong all those mental states in which the mind or subject is regarded as producing changes either in the state of mind itself or in its bodily environment. The movements thus produced are called voluntary, and the mental acts producing them volitions.

Willamette River, a river in Oregon, rises in Lane county, and flows into Columbia river, 8 miles below Fort Vancouver, after a N. N. W. course of 200 miles, of which it is navigable for large vessels 15 miles to Portland, and above the falls for small steamboats about 60 miles. The valley of the Willamette is very fertile and picturesque, and is usually styled the "garden of Oregon."

Willamette University, a coeducational institution in Salem, Or.; founded in 1844, under the auspices of the Methodist Episcopal Church.

Willard, Emma (Hart), an American educator; born in Berlin, Conn., Feb. 23, 1787. She did much for bettering the education of women. Died in Troy, N. Y., April 15, 1870.

Willard, Frances Elizabeth, an American temperance reformer; born in Churchville, near Rochester, N. Y., Sept. 28, 1839. Her early education was received at Oberlin College, and her parents removing to Illinois she was graduated at the Northwestern Female College at Evanston, Ill., in 1859. After some years spent in teaching she became Professor of Esthetics in the Northwestern University, and was made president of the Woman's College in February, 1871. She began her active temperance work in 1874, and was made secretary of the National Woman's Christian Temperance Union. In 1879 she was made president of that organization and held the office till her death. She was chosen as president of the World's Christian Temperance Union in 1888, and in 1892 visited England as the guest of Lady Henry Somerset, the well-known temperance worker. During her visit in London she addressed a mass meeting at Exeter Hall which was said to be the largest and most intensely interesting assemblage ever held in its walls. She was an untiring worker and for 10 years averaged one public meeting a day, besides writing letters and articles, and planning work while in transit between towns at which she spoke. She was editor-in-chief of the "Union Signal" from 1892, and a frequent contributor to other periodicals and newspapers, being an admirable writer and a journalist of rare tact, quickness and force. She was an orator of great eloquence, humor, and power. Her executive ability and genius for organization were wonderful and her work for temperance and social purity will live in the history of her country. She died in New York city, Feb. 18, 1898.

Willett's Point, an American military reservation on Long Island Sound; 20 miles N. E. of the Battery, New York city, and opposite Fort Schuyler. It contains 136 acres which were purchased by the government in 1857 and 1863. The original intention was to build a powerful fort here to reënforce Fort Schuyler in the defense of the E. entrance to New York harbor; but on account of the changes made in the methods of attack and defense during the Civil War the work was left unfinished. In 1864 the Grant General Hospital and numerous temporary structures were built here, and at the close of the war a station for experiments with torpedoes, a depot for materials and stores, and a school

of practice were established. The present school was organized in 1885. Its staff comprises a commandant, three company commanders, a battalion adjutant, and a quartermaster.

William I., the Conqueror, King of England, the natural son of Robert, Duke of Normandy; born in Falaise, in 1027. He was brought up at the court of the King of France, and succeeded to the duchy at the age of eight. But during his minority there were frequent revolts of the nobles, and his authority was not fully established for many years. On the death of Edward the Confessor, King of England, William made a formal claim to the crown, alleging a bequest in his favor by Edward, and a promise which he had extorted from Harold. His claim being denied, he at once prepared for an invasion of England; effected a landing at Pevensey, Sept. 28, 1066, while Harold was engaged in opposing the Norwegians in the N., and fortified a camp near Hastings. The decisive battle of Hastings was fought on Saturday, Oct. 14, 1066; Harold was defeated and slain, and the Norman Conquest was commenced. His rival, Edgar Atheling, was supported by some of the leading men for a short time; but they all made submission to William, and on the following Christmas day he was crowned at Westminster. He reigned with great tyranny; in consequence of which several insurrections took place. To prevent nightly meetings and conspiracies, he instituted the curfew, or "cover-fire bell," at the sound of which every night, at eight o'clock, all fires and candles were to be put out. A survey was made of all the lands in the kingdom, the account or register of which was called the "Domesday Book." In 1078 he finished the Tower of London; in 1087 he attacked and destroyed the city of Mantes. He was about to march toward Paris, but died in Rouen, Sept. 9, 1087.

William II., usually called Rufus; born in Normandy in 1056, the son of the Conqueror, and crowned on the news of his father's death reaching England, in 1087. He made a conquest of a part of Wales, and obtained the duchy of Normandy from his brother Robert, in 1095. He was a great persecutor of the clergy. William was accidentally slain by an arrow, as he was hunting in the New Forest, Hampshire, Aug. 2, 1100.

William III., of Nassau, Prince of Orange and King of England; born in The Hague, Holland, Nov. 14, 1650; was the son of William, Prince of Orange, and Mary, daughter of Charles I. He married the Princess Mary, daughter of James II.; became stadtholder of Holland in 1672. He was made general of the troops of Holland against Louis XIV., and made a vigorous resistance to the French armies under Luxembourg, whom he defeated in 1674; but was repulsed in his turn by the Prince de Conde. In 1688 the arbitrary measures, both against the established religion and the constitution, of James II., induced many nobles and others to invite the Prince of Orange to take possession of the English crown. He landed without opposition at Torbay, the same year. James withdrew to France, and William took possession of his throne. His coronation as King of England took place in 1689. The year following William went to Ireland, where he defeated James at the battle of the Boyne. In 1691 he headed the confederate army in the Netherlands, took Namur in 1692, and in 1697 was acknowledged King of England by the treaty of Ryswick. On the death of Mary in 1694, the Parliament confirmed to him the royal title. His death was owing to a fall from his horse, March 8, 1702.

William IV., King of England; born in London, Aug. 2, 1765; the third son of George III. In his 15th year he entered the royal navy, and in 1780 was with Admiral Rodney when the latter defeated a Spanish squadron off Cadiz, and afterward proceeded to the relief of Gibraltar. Prince William subsequently held the command of a vessel of war in various parts of the world, but retired from active service in 1790. On the death of his brother, George IV., in 1830, he became King of England, and ruled till 1837. At his death, the Princess Victoria, daughter of his brother, the Duke of Kent, became Queen of England. He died in Windsor, June 20, 1837.

William I., Emperor of Germany, and King of Prussia, son of Frederick William III., by Princess Louise of Mecklenburg-Strelitz, and brother of Frederick William IV.; born in Berlin, March 22, 1797, received a military education, and took part in the campaigns of 1813 and 1815 against France. In 1840 he was appointed governor of Pomerania, which post he held till the revolution of 1848, when he sought refuge in England. He was elected a member of the Constituent Assembly in May of the same year, when he returned to Berlin. In 1849, as Commander-in-Chief of the Prussian army, he acted against the revolutionary Badeners; and in 1858, on the lunacy of his brother, the king, becoming manifested, William was appointed regent. This position he occupied till Frederick William's death, in 1861, when he succeeded to the throne. William speedily embroiled himself and government with the liberal parliamentary body of that day; and this to so critical a degree, after the accession of Bismarck to the premiership in 1862, that the rupture threatened to end in revolution or civil war. A diversion from this state of things was, however, happily effected by the war which Prussia, with Austria, declared against Denmark. In 1866, war was next declared by Prussia against her old ally, Austria; and after a short campaign, Austria was compelled to make a humiliating peace. By this war Prussia obtained supremacy in Germany. In July, 1870, the Emperor Napoleon III., taking umbrage at Prussian interference with the succession to the vacant Spanish throne, or prompted by other motives, rashly declared war against Prussia, a power long prepared for such a contingency. On this, William, forming an alliance with the South German States, crossed the Rhine, and in a short campaign, defeated the French, took Napoleon and his principal commanders prisoners, and received the capitulation of Paris, in February, 1871. Peace was declared by a treaty entered into at Versailles, by which Prussia acquired the province of Alsace, part of that of Lorraine, including the city of Metz, along with a war indemnity of $1,000,000,000. His success in the war with France led to an offer from the German States of the imperial crown of Germany, which he accepted. He was crowned Emperor of Germany at Versailles, Jan. 18, 1871. His 90th birthday was celebrated throughout Germany, March 22, 1887, and he died March 9, 1888. He was succeeded by his son Frederick, who was succeeded in the same year by his son William, as William II.

William II., German Emperor and King of Prussia; born Jan. 27, 1859, and ascended the throne June 15, 1888, upon the death of his father, Frederick III., of Prussia, and Frederick I., of Germany. Although of warlike tastes, his reign has been peaceful, save for hostilities with African and Polynesian savages, brief hostile operations against Venezuela and Haytian rebels, in 1902–1903, and Germany's share in the allied expedition against China in 1900–1901. He has maintained the German army at a high grade of efficiency, and has energetically promoted the construction of a powerful navy. He supports with vigor the imperial dignity, and causes any unfavorable reflection or innuendo regarding the ruling house to be punished with severity. He is a man of much learning and considerable ability usually distant but at times most gracious in his demeanor, and very friendly to Americans. He is said to be earnestly desirous of being on good terms with the United States, although the arrogant and aggressive attitude of some of his naval officers at the time of the Spanish-American war somewhat imperiled friendly relations. Although so abrupt at times in his actions that he is known as "William the Sudden," his ultimate decision commonly proves to be the outcome of careful deliberation, and broad and enlightened judgment. His rule, on the whole, has been beneficial to Germany and to the world. In religion he is a sincere Lutheran. He married the Princess Victoria of Schleswig-Holstein-Sonderburg-Augustenburg, and has six sons, the oldest born May 6, 1882, and one daughter.

Owing to an unfortunate accident at birth, the German emperor has an imperfect left arm. This misfortune

has in a degree been remedied (in 1903) by an ingenious device of a steel arm, incasing the imperfect member, which includes a small electric storage battery worked by pressure on push buttons in a manner not noticeable, and which gives the Emperor a grasp as firm as if he had a perfect arm and hand.

William I., Frederick, King of Holland, Grand-Duke of Luxembourg, Prince of Orange and Duke of Nassau; born in The Hague, Aug. 24, 1772. He distinguished himself in the wars with the French republic, and became an exile with his father, the hereditary stadtholder of the Dutch republic, in 1795; after his father's death, he succeeded to the duchy of Nassau, and joined the Prussian army against Napoleon. He became King of Holland by the settlement of affairs which followed the fall of Napoleon in 1814. He abdicated in 1840, and died in Berlin, Dec. 12, 1843.

William II., Frederick George Lewis, son and successor of the preceding; born in The Hague, Dec. 2, 1792, distinguished himself in the Peninsular war under Lord Wellington; he also commanded the army of the Netherlands at the battle of Waterloo. His reign commenced from his father's abdication in 1840. He died March 17, 1849.

William III., Alexander Paul Frederick, son and successor of the preceding; born in The Hague, Feb. 19, 1817. While Prince of Orange, William married, 1839, the Princess Sophia Frederica Matilda, daughter of the late King William I., of Wurtemberg. They had two sons; William Nicholas Alexander Frederick Charles Henry, Prince of Orange; born in 1840, and William Alexander Charles Henry Frederick; born in 1851, and died in 1884, the last male heir of the house of Orange. William III. died at the Castle of Loo, Nov. 23, 1890.

William I., surnamed The Lion, King of Scotland; born in 1143, a grandson of David I., and brother of Malcolm IV., whom he succeeded in 1165. His predecessors had long contested with the Kings of England the sovereignty of Northumberland and other districts of what is now the N. of England. Under Malcolm these claims were virtually abandoned and the King of Scots received, as a sort of equivalent for them the earldom of Huntingdon and other valuable estates. William attended Henry of England in his continental wars, and is supposed, when doing so, to have pressed for the old disputed districts. Disappointed therein, he invaded them after the example of his ancestors. On July 13, 1174, he fell into the hands of an English party. For security he was conveyed to Normandy, and there he consented, as the price of his liberation, to perform that homage for his kingdom which the English kings so long in vain attempted to exact from the government of Scotland. The treaty of Falaise, as the transaction was termed, was revoked in the year 1189 by Richard I. of England in consideration of a payment of 10,000 marks, which he wanted for his celebrated expedition to Palestine. William had several disputes with the Church, but he was one of the early benefactors of the regular ecclesiastics. William died in Stirling in 1214.

William I., of Nassau, Prince of Orange, surnamed The Silent; the first leader in the Dutch war of independence; born in Dillenburg, Nassau, April 14, 1553. Being trained to political employments he conformed outwardly to Catholicism, and had become governor of the provinces of Holland, Zealand, and Utrecht, while the reformed doctrines were spreading, and events were ripening for the revolt of the Netherlands.

Philip II., King of Spain, having appointed Margaret of Parma, a daughter of Charles V., stadtholdress, with the Cardinal of Granville for adviser, the latter began his career by persecuting the Protestants, and was preparing to introduce the inquisition, when, 1566, the nobles petitioned Margaret against this measure. As they were treated with contempt, their remonstrances were followed by popular commotions. Alva was sent, at whose approach 100,000 of the most industrious Flemings took refuge in foreign countries. This was the crisis at which William came forward, and raised the standard of independence.

Though the cruel Alva was recalled at the end of six years, 1574, and replaced by a milder ruler, the Dutch continued the war, and Holland was liberated by the relief of Leyden, which William effected by laying the whole country under water in 1575. He was now elected stadtholder, and Calvinism became the established religion. By the "Pacification of Ghent" in 1576, William united all the provinces in one confederation, but he found it impossible to heal these internal causes of disunion, and the Spaniards were able to repossess themselves of the S. provinces under the Duke of Parma. Philip had set a price on William's head, and in 1582, an attempt was made to assassinate him, but he recovered from the wound. A second attempt was successful. One Balthaser Gerard, being introduced to the stadtholder on the plea of business, suddenly drew a pistol loaded with three balls, and shot him in the body at Delft, July 10, 1584 causing his death. For this dastardly crime the relatives of the assassin were ennobled by the Spanish king.

William and Mary College, an educational, non-sectarian institution in Williamsburg, Va.; founded in 1693.

William Jewell College, an educational institution in Liberty, Mo.; founded in 1849 under the auspices of the Baptist Church.

Williams, Annie (Bowles), an American juvenile story writer; born in Connecticut, in 1840. She published "Birchwood"; "The Fitch Club"; etc.

Williams, Arthur Llewellyn, an American clergyman; born in Owen Sound, Ontario, Canada, Jan. 30, 1856; received an academic education and engaged in the railroad business in Colorado for several years; was graduated at the Western Theological Seminary, Chicago, in 1888, and ordained in the Protestant Episcopal Church in 1889; rector of St. Paul's Church, Denver, in 1891–1892, and of Christ Church, Chicago, in 1892–1899; and was consecrated Bishop-Coadjutor of Nebraska, Oct. 18, 1899.

Williams, Mrs. Catharine R. (Arnold), an American author; born in Providence, R. I., about 1790. She died in Providence, Oct. 11, 1872.

Williams, Francis Howard, an American dramatic writer; born in Philadelphia, Pa., in 1844. Among his plays are: "The Princess Elizabeth: A Lyric Drama"; "A Reformer in Ruffles"; etc.

Williams, Sir George, founder of the Young Men's Christian Association; born in Dulverton, Somersetshire, England, Oct. 11, 1821. In 1841 he went to London; gathered together the young men employed in the same establishment as himself, and on June 12, 1844, organized, with 12 of them a band called the "Young Men's Christian Association," which was designed to be "a society for improving the spiritual condition of young men engaged in the drapery and other trades." He was the first treasurer of the Young Men's Christian Association, and was always devoted to its interests. He died Nov. 6, 1905.

Williams, George Washington, an American negro writer; born in Pennsylvania, in 1849. He served in the Federal Army in the Civil War; subsequently as an officer in the army of Mexico; minister to Haiti in 1885–1886; wrote "History of the Negro Race in America," etc. Died in 1891.

Williams, John, an American clergyman; born in Deerfield, Mass., Aug. 30, 1817; was graduated at Trinity College in 1835; traveled abroad and was ordained in the Protestant Episcopal Church in 1841; was president of Trinity College in 1848–1853; and in 1854 became dean of the Berkeley Divinity School in Middletown and held that post till his death. In 1865 he was consecrated Bishop of Connecticut. On the death of Bishop Southgate in 1894 he became the senior bishop of his Church. He died in Hartford, Conn., Feb. 7, 1899.

Williams, Oscar Fitzalan, an American diplomatist; born in Livonia, N. Y., June 29, 1843; was graduated at Cornell University in 1869; engaged in teaching for 20 years; was consul to Havre, France, in 1889–1893. After the Spanish-American War he was active in the adjustment of the Philippine Islands to their new conditions. He was the last United

States consul in Manila, having been appointed in 1897. On Jan. 4, 1901, he was made consul-general at Singapore, Straits Settlements.

Williams, Roger, the founder of the State of Rhode Island, and distinguished as the first asserter in modern Christendom of the sanctity and perfect freedom of conscience; born in London, England, in 1604; studied at Oxford, entered the Church, and naturally joined the Puritan party. To escape the persecutions to which the Puritans were subject in England, he fled to America to find freedom to worship God. He arrived at Boston, New England, in 1631, but soon found himself in collision with the churches already existing there; for they still acted on the very principles of which they had been the victims at home. At length, in 1636, he was ordered to embark for England. To avoid this he left Salem in mid-winter, wandered houseless and half-fed for 14 weeks, then found friends and hospitality among the Indians, whose language he had learned. He preached to them, won their love, and was their friend and peace-maker till his death. He had resolved on founding a new settlement, and after beginning to build and plant at Seekonk, had to abandon the spot, and selected Rhode Island, on which he landed from an Indian canoe, with five comrades, in June, 1636. He called the place "Providence," and commenced building. In the course of two years he was joined by others, and founded a commonwealth in the form of a pure democracy, and his system has had its influence on the whole political history of the State. To secure the permanent existence of Rhode Island as a separate State, Williams went to England in 1643, and obtained a charter. He died in Providence in 1683.

Williams, Samuel Wells, an American philologist; born in Utica, N. Y., Sept. 22, 1812. He assisted in preparing a Chinese, and afterward a Japanese, dictionary; was interpreter for Commodore Perry in Japan; secretary of legation in China; and Professor of Chinese at Yale. He died in New Haven, Feb. 17, 1884.

Williamsport, city and capital of Lycoming county, Pa.; on the W. branch of the Susquehanna river and the Pennsylvania and other railroads; 94 miles N. by W. of Harrisburg; is one of the greatest lumber markets in the country; is chiefly engaged in various manufactures of lumber, besides silk and rubber goods, iron work, sewing machines, furniture, and brick; and has a Federal Building, and many charitable institutions. Pop. (1910) 31,860.

Willis, Nathaniel Parker, an American author; born in Portland, Me., Jan. 20, 1806; was educated at Boston, Andover, and Yale College; employed by S. P. Goodrich (Peter Parley) to edit "The Legendary" (1828) and "The Token" (1829); established the "American Monthly Magazine," which was merged in the "New York Mirror"; traveled in France, Italy, Greece, European Turkey, Asia Minor, and finally England; returned to America in 1837, and afterward edited "The Home Journal." His numerous published writings include: "Pencillings by the Way"; "Inklings of Adventure"; etc. Died near Newburg, N. Y., Jan. 20, 1867.

Willoughby, William Franklin, an American economist; born in Alexandria, Va., July 20, 1867; was graduated at Johns Hopkins University in 1888; appointed expert in the United States Department of Labor in 1890; and in 1900 was chosen special agent on Education and Social Economy of the United States Commission to the Paris Exposition. He was several times a representative of the Department of Labor at international congresses for the investigation of labor conditions in Europe, and a lecturer on economics at Johns Hopkins University. He was the author of "Workingman's Insurance" (1898).

Willow, any species of the genus Salix. Some of the willows furnish good timber, among which is the Huntingdon or white willow. It is 80 feet high, with a girth of 20 feet. The timber is used for carpentry and for fuel, and the bark for tanning. It is common in America.

Willow Wren, or **Willow Warbler,** in ornithology, called also the yellow wren, from the localities it

frequents and the general color of its plumage. In temperate climates the willow wren begins to couple about the end of April. The nest is placed on the ground, most commonly against a bank among long grass or weeds, but often at the foot of a bush, and, like that of the wood wren, is covered with a dome having a rather wide hole in the side, whence this species and its congeners are called "oven birds."

Wilmington, a city, the county-seat of New Castle Co., Del., 28 miles south-west of Philadelphia, near the Delaware between Brandywine and Christiana Creeks. It is regularly built, and has an university, a city-hall, an opera-house, an hospital, cotton and woolen factories, iron-foundries, rolling-mills, potteries, tanneries, breweries, and an extensive trade. Wilmington dates from Fort Christina, and the village of Christinaham, founded by Peter Minuet, commanding the first Swedish expedition to America. It came under Dutch and English rule, and in 1737 a new town was platted on the site, by Thomas Willington and called Willingstown, which eight years later was changed to Wilmington in honor of the English lord of that name. Pop. (1910) 87,411.

Wilmington, a city and port of entry, county-seat of New Hanover Co., N. C., on Cape Fear River, 160 miles N. E. of Charleston. It is the largest town in the state, and has turpentine distilleries, machine-shops, etc. Pop. (1910) 25,748.

Wilmot, David, an American jurist; born in Bethany, Pa., Jan. 10, 1814; was admitted to the bar in 1834; member of Congress in 1845–1851, being author of the celebrated "Wilmot Proviso." He was presiding judge of the 13th District of Pennsylvania; United States Senator; and became a judge of the United States Court of Claims in 1863. He died in Towanda, Pa., March 16, 1868.

Wilmot Proviso, a notable resolution introduced into the United States Congress by David Wilmot. On Aug. 8, 1846, pending the consideration in Congress of a bill placing $2,000,000 at the disposal of President Polk to negotiate a peace with Mexico, David Wilmot, a representative from Pennsylvania, offered the following amendment: "Provided, that neither slavery nor involuntary servitude shall ever exist in any part of territory, acquired from Mexico, except for crime, whereof the party shall first be duly convicted." This was the famous "Wilmot Proviso," which became the source of great agitation throughout the country. It was adopted in the House by a vote of 94 to 78, and was under debate in the Senate when the hour arrived previously fixed for the adjournment of the session. At the next session, Mr. Wilmot again introduced it. The House remained firm in favor of the amendment, and it was passed by a decided majority, but not acted on by the Senate.

Wilson, Alexander, a Scotch-American ornithologist; born in Paisley, Scotland, July 6, 1766. In early life he was a weaver and teacher. He published a volume of poems in 1790, but being sentenced for a lampoon in 1793, emigrated to America. He was employed as editor of the American edition of Rees's "Cyclopædia"; but in his wanderings as peddler, he learned to love birds, and set about writing on ornithology. At his death seven volumes of this work had been published; the eighth and ninth volumes were edited by George Ord, and a continuation by Charles Lucien Bonaparte. Volumes of his poems were published at Paisley in 1816, and at Belfast in 1857. He died in Philadelphia, Pa., Aug. 23, 1813.

Wilson, Allen Benjamin, an American inventor; born in Willet, N. Y., Oct. 18, 1824; was a cabinet maker by trade, but in 1849 invented a sewing machine which made a stitch at each movement of the shuttle, and thereafter devoted himself to its improvement. On the completion of his sewing machine he entered into partnership with Nathaniel Wheeler, a practical manufacturer, and began to make his machine in a small shop in Watertown, Conn., but soon afterward removed to Bridgeport, Conn., and there established the largest factory of its kind in the world. In 1852, however, on the reorganization of the firm he withdrew from the business and settled in Waterbury, where he engaged in other enterprises. He died in Woodmont, Conn., April 29, 1888.

Wilson, Augusta Jane (Evans), an American novelist; born near Columbus, Ga., about 1838. She lived some years in Texas; and now at Mobile, Ala. Her works have very considerable popularity. Died in 1909.

Wilson, Henry (born Jeremiah Jones Colbaith), an American statesman; born in Farmington, N. H., Feb. 16, 1812; was mainly self-educated and learned the trade of shoe making. On attaining his majority he had his name changed by the legislature to that by which he was best known. He became an abolitionist in 1835; supported William Henry Harrison for the presidency in 1840; was elected to the Massachusetts House of Representatives in the same year; and held a seat in the State Senate, and was its president for two years. In 1855 he was elected to the United States Senate. On May 22, 1856, Charles Sumner, his colleague, was assaulted by Preston S. Brooks, and on the next day Senator Wilson pronounced the action "brutal, murderous, and cowardly." Soon afterward Brooks challenged Wilson to a duel, but the latter refused on the ground that duelling was both unlawful and barbarous. During his career in the Senate he was a fearless opponent of slavery. He was reëlected to the Senate; in 1861 became chairman of the Committee on Military Affairs. In this capacity, at the beginning of the Civil War he influenced Congress to pass an act permitting the recruiting of 500,000 men. He was a third time returned to the Senate, and there remained till elected Vice-President of the United States in 1872, on the ticket with General Grant. He died in Washington, D. C., Nov. 22, 1875.

Wilson, James, an American agriculturist; born in Ayrshire, Scotland, Aug. 16, 1835. He removed with his father to the United States in 1852, and in 1855 settled in Iowa. He served three terms in the Iowa Legislature, being speaker for two years; was elected to Congress. In 1891 he was Professor of Agriculture in the Iowa Agricultural College. In 1897 he was appointed Secretary of the Department of Agriculture by President McKinley; and was twice reappointed.

Wilson, James Grant, an American author; born in New York city, April 28, 1832; served in the Civil War. Besides numerous addresses, essays, and articles in periodicals, he published: "Biographical Sketches of Illinois Officers"; "Life of General Grant"; etc. He was the editor (with John Fiske) of "Appleton's Cyclopædia of American Biography," and alone, of "Memorial History of the City of New York."

Wilson, James Harrison, an American military officer; born in Shawneetown, Ill., Sept. 2, 1837; was graduated at the United States Military Academy in 1860 and assigned to the Department of Oregon in the topographical engineer service. During the Civil War he served with distinction as an engineer, and took a leading part in the capture of Jefferson Davis. On July 28, 1866, he was brevetted Major-General, U. S. A., for gallant and meritorious services during the war, and on Dec. 31, 1870, was honorably discharged at his own request. After leaving the army he was engaged in large railroad and engineering operations, both in the United States and abroad, and on the outbreak of the Spanish-American War was appointed Major-General of volunteers and was assigned to the command of the 1st Division, 1st Army Corps, in the campaign in Porto Rico.

Wilson, Jeremiah Morrow, an American jurist; born in Warren co., O., Nov. 25, 1828; received an academic education; was judge of the Court of Common Pleas of Fayette co., Ind.; judge of the Circuit Court; member of Congress; declined a renomination; resumed the practice of law in Washington, D. C. In 1901, after the Navy Department had granted the request of Admiral Schley for a court of inquiry, the admiral chose Judge Wilson as his chief counsel. While serving as such he died suddenly in Washington, D. C., Sept. 24, 1901.

Wilson, John M., an American military engineer; born in the District of Columbia, Oct. 8, 1837; was graduated at the United States Military Academy in 1860, and entered the artillery, but was transferred to

the Ordnance Department the same year, to the artillery again in 1861, and to the Engineer Corps, in which he rendered his most conspicuous service, in 1863. On Jan. 14, 1902, President Roosevelt appointed him to represent the United States army at the coronation of King Edward VII.

Wilson, Theodore Delevan, an American naval constructor; born in Brooklyn, N. Y., May 11, 1840; was an apprentice in the Brooklyn navy yard; entered the construction department of the navy in August, 1861, as a carpenter. On May 17, 1866, he was made an assistant naval constructor; and was appointed chief of the Bureau of Construction and Repair in 1882, 1886, and 1891. During his service he planned the battleship "Maine," the cruisers "Chicago," "Boston," and "San Francisco," and the gunboats "Concord," "Bennington," "Yorktown," and "Petrel." He died in Boston, Mass., June 29, 1896.

Wilson, Woodrow, an American statesman; born in Staunton, Va., Dec. 28, 1856; was graduated at Princeton College in 1879; studied law at the University of Virginia; practiced at Atlanta, Ga., in 1882–1883; took a special course at Johns Hopkins University in 1883–1885; was Associate Professor of History and Political Economy at Bryn Mawr College in 1885–1888; professor of the same at Wesleyan University in 1888–1890; Professor of Jurisprudence and Politics at Princeton University in 1890–1902; president in 1902–1910; resigned to accept the Democratic nomination for governor of New Jersey; and was elected for the term of 1911–1914. As governor, he waged a long and successful fight with the machine leaders in his own party to uphold the will of the people as expressed in the primaries and by other methods, and soon came to be regarded as a promising possibility for the Presidential nomination of his party. He made several extended speaking tours, and early in 1912 was recognized as one of the foremost candidates for the nomination. At the Democratic National Convention in July, 1912, he received 990 votes to 84 for Speaker Champ Clark (Mo.) and 12 for Gov. Judson Harmon (Ohio) on the forty-sixth ballot. In the ensuing election he received the largest electoral majority on record, defeating President Taft and Theodore Roosevelt.

Winans, Ross, an American inventor; born in Vernon, N. J., in October, 1796; built the first locomotive used on the Baltimore and Ohio railroad. He also invented the camel-back locomotive and the eight-wheeled car, and established in Baltimore the largest machine shops in the United States. He died in Baltimore, Md., April 11, 1877.

Winans, Thomas DeKay, an American engineer; born in Vernon, N. J., Dec. 6, 1820; son of Ross; was made a partner with his father and his brother, William Lewis. In 1843 the Russian government invited his father, with Andrew M. Eastwick, and Joseph Harrison, to undertake a contract to build a railroad from St. Petersburg to Moscow. He took his father's place and with the others mentioned executed the contract. Subsequently other contracts were made in Russia which were very lucrative. He designed with his father and brother a tubular arrangement for the feeding of young trout, and a system of steam navigation known as the cigar-ship. He died in Newport, R. I., June 11, 1878.

Winchell, Alexander, an American geologist; born in Dutchess co., N. Y., Dec. 31, 1824. He lectured extensively and contributed to many journals. He died in Ann Arbor, Mich., Feb. 19, 1891.

Winchester, Battle of, the name of several engagements in the American Civil War. The most important were: (1) A battle fought at Kernstown, Va., near Winchester, March 23, 1862, between the Federals under General Shields and the Confederates under General Jackson, in which the former were victorious. This battle is sometimes called the battle of Kernstown. (2) A victory gained by the Confederates under General Early, over the Federals under General Crook, July 24, 1864. (3) A battle fought by the Federals under General Sheridan and the Confederates under General Early, at Winchester, Va., Sept. 19, 1864. The latter were defeated, with a loss of 5,000 men.

Wind, air in motion; the distributer of heat and moisture over the earth's surface; thus constituting a principal factor of what is called the weather. Any cause which disturbs the equilibrium of pressure of the atmosphere will give rise to aerial currents. The most potent causes are variations in temperature and in amount of aqueous vapor. Winds will always blow, or tend to blow, from the regions of higher to regions of lower pressure, and the greater this difference, the greater will be their force or intensity.

Wind Instruments, musical instruments the sounds of which are produced by the action of the breath of a player or of a pair of bellows on a column of air. The organ is really a collection of wind instruments of different kinds. Those of wood have a soft tone, those of brass a loud and powerful tone.

Windlass, a mechanical contrivance used on board ship for raising anchors and other heavy masses. The principle of its action is the same as that of the capstan, from which it differs mainly in the horizontality of its axis. It consists essentially of a large roller, supported in checks or windlass bitts, and rotated by handspikes fitting into mortices in the windlass, or by means of a single handle.

Windmill, a mill which receives its motion by the wind acting on sails, and which is used for grinding grain, raising or pumping water, and other purposes.

Windom, William, an American financier; born in Belmont, O., May 10, 1827; began practising law in Mount Vernon, O., in 1850. In 1852 he was made prosecuting attorney of Knox county, O. He held this position for three years, when he removed to Minnesota. He was sent to Congress from that State in 1859, and was reëlected to serve four successive terms, a period of 10 years. He was appointed to the United States Senate in 1870 to fill the unexpired term of Daniel S. Norton, deceased. He resigned, in 1881 to accept the Treasury portfolio in President Garfield's cabinet, and on his retirement from the cabinet after that President's death he returned to the Senate, where he served the remainder of his term. He became Secretary of the Treasury in President Harrison's cabinet in 1889, and died in New York, Jan. 29, 1891.

Wind Signals, signals adopted by the United States for announcing the approach of wind storms. They are principally for the information of maritime interests, and are distinct from the system of weather, temperature, and rain signals displayed throughout the country.

Windsor, properly called New Windsor, a parliamentary borough of Berkshire, England, on the Thames, is chiefly interesting on account of the antiquity of its castle and park, which have been a favorite residence of English monarchs since the time of William the Conqueror. The older palace of the English kings was Old Windsor, about 2 miles distant. The chapel, which was begun by Henry III., was completed by Edward III., rebuilt by Henry VII., and added to by Cardinal Wolsey. Under this chapel is the burial vault of the present royal family. The park and forest immediately adjoining are 13,000 acres in extent.

Windward, The, the vessel in which Lieutenant Peary sailed from New York city, July 2, 1898, on his fifth expedition in search of the North Pole. She was originally a sailing vessel, but was fitted up with steam in 1866. She was for many years used as a whaler and went yearly to Greenland from 1860 to 1875, and on three successive years from 1865 she made a second trip to Davis Strait. The Jackson-Harmsworth polar expedition went in this vessel and afterward brought Nansen's party home. To the "Windward" belongs the honor of having proved the navigability of the Franz-Josef Land seas. She is constructed entirely of oak, doubled and tripled with African oak, and latterly has been greatly strengthened to resist enormous ice-pressure.

Windward Islands, a group in the West Indies, comprising St. Lucia, St. Vincent, Barbadoes, Grenada, and Tobago.

Wine, a spirituous liquor produced by fermentation from vegetable substances containing saccharine matter. There are a great many vegetable substances from which, by this process,

wine may be produced, such as apples, pears, currants, elderberries, and others; but unless otherwise expressed, the term is always used to indicate the fermented juice of fruit of the common vine.

Wine, American. The first production of wine from native grapes in the United States was in Florida in 1665; but no important attempt to develop wine making in the United States was made till 1828, when Nicholas Longworth, of Cincinnati, engaged in the business. The industry was also soon after developed in Missouri. More recently the industry has been largely developed in New York. Several others of the Eastern States produce wine. The wines of the E. part of the country are much more acid than those of the Pacific coast. California is far the greatest wine-producing State of the Union.

Winebrenner, John, an American clergyman; born in Frederick co., Md., March 24, 1797; was ordained in the German Reformed Church in 1820; and in the same year was called to the Salem Church in Harrisburg, Pa. He retained his connection with that charge till 1827, when, owing to his religious views on temperance and slavery, he was asked to withdraw; and in 1828 his connection with the Reformed Church ceased by action of the synod. In October, 1830, he established a new denomination under the name of the "Church of God," whose members became known as Winebrennerians. He died in Harrisburg, Pa., Sept. 12, 1860.

Wines, Enoch Cobb, an American penologist; born in Hanover, N. J., Feb. 17, 1806. He became secretary of the New York State Prison Association in 1862, and afterward devoted his life to the promotion of reform in the administration of criminal law and treatment of criminals. He died in Cambridge, Mass., Dec. 10, 1879.

Wines, Frederick Howard, an American statistician; born in Philadelphia, Pa., April 9, 1838; was graduated at Washington College, Pa., in 1857, and at Princeton Theological Seminary in 1865; was a chaplain in the Union army in 1862–1864; pastor of the First Presbyterian Church, Springfield, Ill., in 1865–1869; became secretary of the Illinois State Board of Commissioners of Public Charities in 1869, and its president in 1893. He was made assistant director of the United States census in 1899.

Wingate, George Wood, an American lawyer; born in New York city, July 1, 1840; was educated in public schools; served with the 22d New York Volunteers during the Civil War. He originated systematic rifle practice for the instruction of the National Guard, and through his efforts the Creedmoor rifle range on Long Island was established.

Winnipeg, a lake of Canada, province of Manitoba; length, about 250 miles; breadth, from 5 to 70 miles. It receives the surplus waters of Lakes Winnipegoos and Manitoba, besides the river Winnipeg, but its chief tributaries are the Saskatchewan and the Red River. Its surplus water is discharged by the Nelson River into Hudson Bay. The river of the same name, which flows into Lake Winnipeg, rises in the Lake of the Woods, and has a length of about 250 miles. Its navigation is interrupted by falls and rapids.

Winnipeg, capital of the province of Manitoba, Canada, at the confluence of the Red River and Assiniboine, 40 miles S. of Lake Winnipeg. In 1870 this city was only a village, its sudden expansion being due in great measure to its central position on the Canadian Pacific Railway. It is connected by railway with the United States, and several other lines radiate from it. It has a city-hall, parliament-house, governor's residence, courthouse, university (well endowed and having four colleges affiliated to it), and is well supplied with water, gas, and electricity. Pop. (1901) 42,336.

Winona, a city, and county-seat of Winona Co., Minn., beautifully situated on the west bank of the Mississippi, 100 miles S. E. of St. Paul. It is a flourishing place and an important center of trade and manufactures, grain and lumber interests predominating. Winona was settled, 1851. Pop. (1910) 18,583.

Winslow, Edward, a Mayflower emigrant and governor of Plymouth Colony; born in Droitwich, England, Oct. 19, 1595. He was a hostage to Massasoit, his account of which was in George Morton's "Relation." He

was the author of "Good Newes from New England," etc. He died at sea, between Santo Domingo and Jamaica, May 8, 1655.

Winslow, John Ancrum, an American naval officer; born in Wilmington, N. C., Nov. 19, 1811; entered the navy about 1827, became a lieutenant in 1839, and commander in 1855. In 1862 he served under Captain Foote on the Mississippi river. He obtained command of the steamer "Kearsarge," of seven guns, and was ordered to the coast of Europe, to watch Confederate cruisers, in the early part of 1863. On June 19, 1864, he met the "Alabama," Captain Semmes, near Cherbourg. When the vessels were about a mile apart, the "Alabama" began to fire rapidly and wildly, but the guns of the "Kearsarge" were directed with coolness and precision. After they had diminished their distance to about a quarter of a mile, the "Alabama" began to sink, and raised a white flag. Captain Winslow lost only three killed and wounded. He took 65 prisoners. He was promoted commodore in 1865 and rear-admiral in 1870. He died in Boston, Mass., Sept. 29, 1873.

Winslow, William Copley, an American archæologist; born in Boston, Mass., Jan. 13, 1840; vice-president, secretary, and treasurer for many years of the Egypt Exploration Fund for the United States.

Winsor, Justin, an American historian; born in Boston, Mass., Jan. 2, 1831; became superintendent of the Boston Public Library, and librarian of Harvard University. He died in Cambridge, Mass., Oct. 22, 1897.

Winston-Salem, a dual municipality in Forsyth county, N. C., the former the county-seat; on the Southern and other railroads; 120 miles W. by N. of Raleigh; is one of the largest tobacco markets in the South; exports immense quantities of leaf tobacco; and manufactures plug and smoking tobacco and cigarettes, cotton, woolen and knit goods, flour, lumber, machinery, wagons, and furniture. Pop. (1910), Winston, 17,167; Salem, 5,533.

Winter, the cold season of the year. Astronomically considered, winter begins in N. latitudes when the sun enters the sign of Capricorn, or at the solstice about Dec. 21, and ends at the equinox in March; but in its ordinary sense it is taken to include the months of December, January and February.

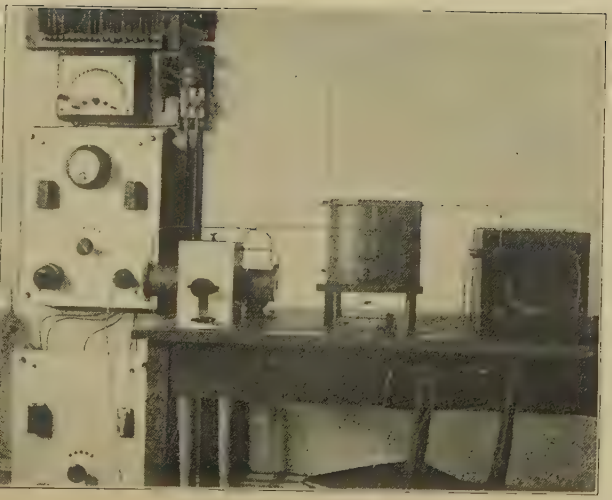
Winter, William, an American dramatic critic; born in Gloucester, Mass., July 15, 1836. He did journalistic work on the "Saturday Press," "Vanity Fair," the "Albion," "Weekly Review"; and was dramatic critic for the New York "Tribune" from 1865.

Wintergreen, a name of several plants, one of them being the partridge berry. The name is also given to a genus of perennial plants having short stems, broad evergreen leaves, and usually racemose white or pink flowers.

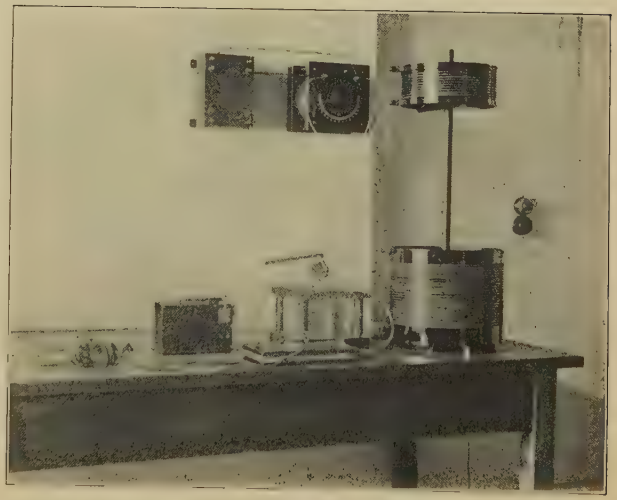
Winthrop, John, first governor of Massachusetts; born in Groton, England, Jan. 22, 1588. He came with the first colonists to Salem in 1630 as their governor, and remained in that office, with the exception of six or seven years, till his death. He left a journal of the proceedings of the colony, which has been published, and is a valuable contribution to the early history of Massachusetts. He died in Boston, March 22, 1649. His son, John, born in Suffolk, England, Feb. 12, 1606, arrived in Massachusetts in 1633. On returning to England he collected a body of colonists and settled with them in Saybrook, Conn., and was appointed their governor, retaining the office till his death. He died in Boston, April 5, 1676.

Winthrop, Robert Charles, an American statesman; born in Boston, Mass., May 12, 1809; was graduated at Harvard College in 1828; studied law with Daniel Webster, and was admitted to the bar in 1831. He soon left law for politics and in 1843 was elected to the State Legislature, where he served five years, three as Speaker of the House. In 1840 he was elected to Congress, serving for 10 years, two years as Speaker. He was appointed Webster's successor in the United States Senate in 1850, and served one year, after which he retired from public life. He died in Boston, Mass., Nov. 16, 1894.

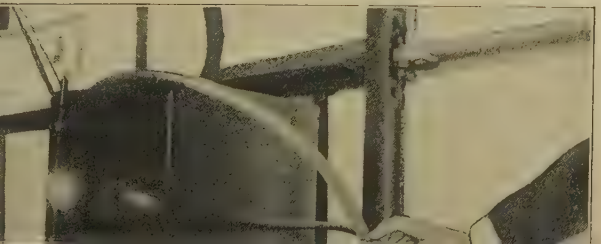
Winthrop, Theodore, an American military officer; born in New Haven, Conn., Sept. 22, 1828; was



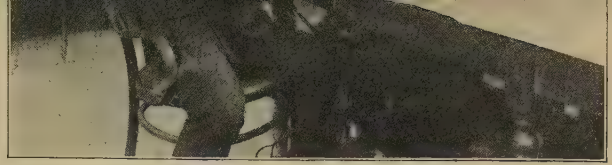
TRANSMITTING APPARATUS



RECEIVING APPARATUS

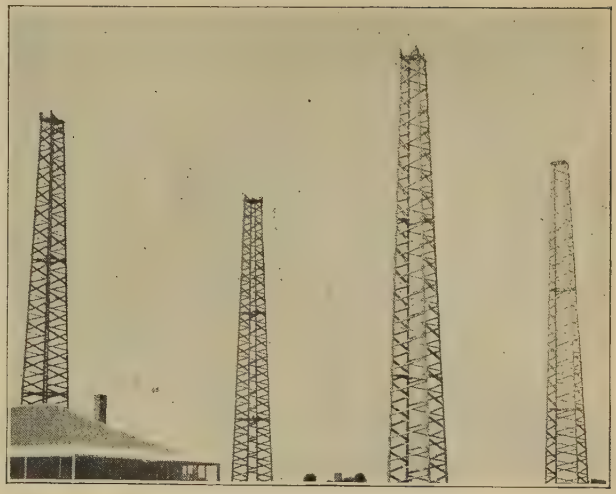


KEY AND SPARK GAP IN ACTION



OPERATOR RECEIVING MESSAGES

DE FOREST STATION



MARCONI STATION

WIRELESS TELEGRAPHY

graduated at Yale College in 1848; traveled extensively; studied law, and joined the 7th New York Regiment in 1861. The 1861 "Atlantic Monthly" contained sketches from him of early war scenes. He left completed material for five volumes of novels and essays. He was killed at the head of an assaulting column of Northern troops at Big Bethel, Va., June 10, 1861.

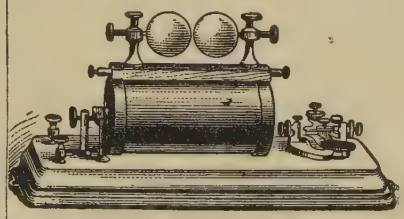
Wire, a metallic rod, thread, or filament of small and uniform diameter. The largest size, numbered 0000, has a diameter of .454 inch; but smaller sizes even than this when drawn out to considerable lengths, are generally known as bars or rods.

Wire Cloth, a fabric whose woof and weft are of wire.

Wiredrawing, the act or process of drawing metal into wire. The metal to be extended is first hammered into a bar or rod. The rods, from ¼ to ½ inches in diameter, received from the rolling mills in bundles are heated and rerolled in grooved rollers, one above the other, so that the rod runs from the first roll to the second, and so on, without reheating, reducing the rod to a coarse wire, which is then passed through the successive holes in the draw plate, a flat piece of hard steel having holes corresponding to the various numbers or sizes of wire. Very fine gold and platinum wires are formed by coating the metal with silver, which is then drawn down to a great tenuity, after which the silver coating is removed by nitric acid, leaving an almost invisible interior wire, which has been so attenuated that a mile in length weighed only a grain.

Wire Fence, a fence made of parallel strands of wire, generally galvanized, strained between upright posts. Usually the wire has, at intervals of about 18 inches, small barbs or prickles, which are intended to prevent cattle from running against or attempting to leap these fences.

Wireless Telegraphy, a system of transmitting messages between distant points without the use of wires. Though popularly supposed to be an invention of very recent years, it is a matter of record that as long ago as 1746 Winckler conducted experiments in wireless telegraphy at Leipsic, and proved conclusively that it was possible to transmit signals a few feet without wire connection of any kind. It is reported that at one time, when a picnic was being held on one bank of the Schuylkill, Benjamin Franklin arranged his electrical apparatus so that he was able to light a fire from the opposite bank, transmitting the electricity through the water of the river and using no wire connection. In 1838 Professor Henry, who was well known as one of the leading scientists of that day, transmitted signals from one room to another to a distance of 18 feet, using a coil of



WIRELESS TELEGRAPHY: AMERICAN TRANSMITTER.

wire with a transmitter in one room and another coil with a receiver in the other room.

In the fall of 1842 Professor Morse went to New York and laid an insulated wire under the water between Governor's Island and Castle Garden, with the intention of showing his friends that it was possible to transmit a message in this way. He had only received one or two signals when a vessel's anchor carried away his wire. On Dec. 16, of the same year he succeeded in telegraphing 80 feet across the Potomac at Washington, without wires. His friends and assistants, Vail and Rogers, succeeded in telegraphing without wires across the Susquehanna, at Havre de Grace, a distance of one mile. In 1855 Professor Henry, who had succeeded in 1838 in transmitting signals 18 feet, now succeeded in transmitting much further, using nearly the same apparatus, and in 1877 Elisha Gray sent signals from one to the other of the Western Electric Company's works in Chicago, by using apparatus somewhat similar to that used by Professor Henry. Prof. A. E. Dolbear,

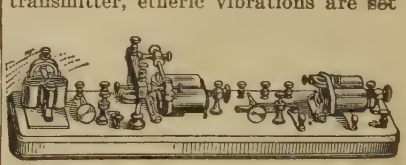
Prof. A. E. Dolbear, of Tufts College, used a perpendicular wire in exactly the same manner as Marconi used it later. Professor Dolbear's wire was raised by means of a kite to a height of 300 or 400 feet. He used two of these wires, one at the transmitting station and one at the receiving station. At the transmitting station he used a large induction coil and Morse key, and at the receiving station he used his telephone receiver, one side of it being connected to the wire in the air and the other side to the earth. In this way Professor Dolbear was able to transmit signals to a distance of over half a mile. He applied for a patent in 1882, and the examiner at Washington frankly told him that his idea was "contrary to science and would not work." But the patent was granted in 1886, when the same examiner admitted that he had made a mistake.

In 1882 W. J. Clarke, of Trenton, Canada, experimented extensively with wireless telegraphy, and though the results of his work were not very promising at that time, he predicted that before many years wireless telegraphy would be a realized fact.

In 1890 Branly discovered that by taking a tube of glass and filling it with metallic filings, and then connecting each end of the filings to a battery and telegraph instrument, the instrument would sound whenever the apparatus was brought in proximity to an induction coil, the sparks from which were made to pass between round metallic balls. This is the earliest form of coherer, and is the same as the one used by Marconi, with the exception that, by careful observation, Marconi was able to construct a much more sensitive coherer.

As usual in matters of this kind, the American inventor stepped to the front, and in 1901 apparatus was being manufactured in the United States which was doing excellent work, and was in use by the Signal Corps of the United States army, which used it between Washington and Fort Meyer, a distance of 5 miles. In April, 1902, Prof. R. A. Fessenden, working under the supervision of the United States Weather Bureau, succeeded in sending messages over 200 miles.

To Guglielmo, otherwise William Marconi, is generally ascribed the honor of inventing what is called "wireless telegraphy," or the sending of telegraphic messages without the use of other medium than the atmosphere. His apparatus was first tested with success in England and Italy, and afterward in the United States, where it was used in reporting the America's cup yacht races of 1899 and 1901, and was similarly used in reporting the races between the Reliance and Shamrock III. in 1903. Marconi has succeeded in establishing communication by wireless telegraphy across the Atlantic, and the London Times has for some time published daily dispatches received by wireless telegraph from America. Mr. W. D. Weaver, editor of the "Electrical World," recently described the principles of wireless telegraphy in the Christian Herald as follows: "Briefly, by means of a transmitter, etheric vibrations are set



WIRELESS TELEGRAPHY: AMERICAN RECEIVER.

up which are propagated through the ether and affect the coherer at the receiving end. The receiver consists of an induction spark coil, the electric discharges between the electrodes setting up the necessary disturbance in the ether. The main part of the receiver, namely, the coherer, has normally a high resistance, but when subjected to etheric waves, assumes a low resistance. In circuit with the coherer is a battery and Morse recorder or sounder. Normally, the resistance of the coherer is too great to allow the passage of an appreciable current from the battery; under the influence of the waves propagated from the transmitter, however, the resistance of the coherer is reduced, a current passes from the battery through the circuit and operates the receiving instrument. The discharges at the transmitter are controlled by a form of the ordinary telegraph key; and the messages are received, as stated above, by a form of

the ordinary Morse recorder or sounder. There are many details connected both with the transmitter and receiver of which a knowledge is necessary for a full understanding of wireless telegraphy, but the inquirer can learn of these from a book on the subject."

Other systems of wireless telegraphy are in use besides that of Marconi, but the principles are practically the same. It has been found very useful for communication between vessels at sea, which are of necessity isolated from wire and cable lines, and several of the Atlantic liners so equipped are now in continuous communication with the land throughout the voyage. In the naval and military operations of the Russo-Japanese War, it played a prominent part. In 1906 the underground wireless system of Father Murgas of Wilkesbarre was exploited, while successful experiments in sending out "single lines" were effected by Prof. Braun of Strasburg and by Prof. V. Poulsen of Copenhagen. In the same year an international wireless telegraph conference in Berlin, in which 31 governments participated, framed an agreement on the principle of free intercommunications between all systems, and the Institute of International Law at Ghent, Belgium, adopted regulations to govern wireless telegraphy in time of war. Recent high records in wireless telegraphy include the exchange of messages between Point Loma, Cal., and Puget Sound, Wash., 1,200 miles, in 1906; the establishment of the Marconi transocean system between Ireland and Nova Scotia in 1907; and a weather report communication between the U. S. S. "Tennessee," when five days out from Honolulu, Hawaii, and Table Bluff, on the northern coast of California, over 4,580 nautical miles, in 1910. See TELEPHONE.

Wirt, William, an American lawyer; born in Bladensburg, Md., Nov. 8, 1772; was admitted to the bar in 1792, and in 1806 settled in Richmond, Va., where he became a prominent lawyer. He distinguished himself at the trial of Aaron Burr in 1807, as one of the counsel for the prosecution. He held many State offices, being clerk of the House of Delegates, Chancellor of the Eastern Shore of Virginia, and member of the House of Delegates. He was appointed United States District Attorney in 1816, and Attorney-General in 1817, holding the latter office till 1829, through three administrations. He was nominated for President in 1832 by the Anti-Masonic party and received the electoral vote of Vermont. He died in Washington, D. C., Feb. 18, 1834.

Wisconsin, a State in the North Central Division of the North American Union; admitted to the Union, May 29, 1848; capital, Madison; number of counties, 71; area, 54,450 square miles; pop. (1910) 2,333,860.

Wisconsin is an elevated undulating plain with an altitude of from 600 to 1,800 feet above the sea. A ridge about 30 miles S. of Lake Superior forms the watershed of the State, the ground sloping down in all directions. A high cliff extends along the shore of Green Bay and Lake Winnebago. The Mississippi river extends along the W. boundary for a distance of 250 miles. The State is famous for its numerous beautiful lakes, among which are the Winnebago, St. Croix, Pepin, Poygan, Pewaukee, Geneva, Green, Koshkonong, Oconomowoc, and Four Lakes. The lake shores have numerous excellent harbors, including Green Bay, Chequamegon Bay, and Port Washington.

The mineral resources of the State are very extensive. Lead, copper, iron and zinc occur abundantly and are mined with profit. The principal mineral productions in 1900 included red hematite, brown hematite, granite, sandstone, limestone, coke, and mineral water.

Much of the N. part of the State is covered with extensive forests of white pine, balsam, hemlock, and other cone-bearing evergreens. The soil in the N. is not well adapted to agriculture, but the prairies in the S. and central portions are exceedingly rich and productive, raising the cereals, tobacco, and potatoes in great quantities. The principal farm crops in 1900 were corn, wheat, oats, barley, rye, buckwheat, potatoes, and hay.

According to the United States census of 1900, the State had 16,187 manufacturing establishments, employing $330,568,779 capital and 152,836 persons; paying $69,015,980 for wages and $208,838,167 for materials; and

having an aggregate output valued at $360,818,942. The principal manufactures, according to the value of output, were: lumber and timber, flour and grist, foundry and machine shop products, railroad cars, leather, malt liquors, packed meat, and paper and wood pulp.

On Oct. 31, 1901, there were reported 96 National banks in operation, having $10,573,710 in capital; $5,009,180 in outstanding circulation; and $4,284,620 in United States bonds. There were also 151 State banks with $6,824,725 capital, and $1,131,559 surplus; 138 private banks, with $1,154,322 capital; and 1 mutual savings bank, with $634,236 in savings deposits.

At the end of the school year 1899–1900 the children of school age numbered 618,290; the enrollment in public schools, 445,142; the average daily attendance, 309,800. There were 7,242 public school buildings, public school property valued at $17,630,000, and 13,063 teachers. For higher education there were 183 public high schools, 25 private secondary schools, 7 public and 2 private normal schools, 10 universities and colleges for men and for both sexes, and the Milwaukee Downer College for Women, at Milwaukee. The principal colleges include the University of Wisconsin, at Madison; Beloit College, at Beloit; Marquette College and Concordia College, at Milwaukee; and Lawrence University, at Appleton.

The strongest denominations in the State are the Roman Catholic; Lutheran, Independent Synods; Methodist Episcopal; Congregational; Regular Baptist; Evangelical Association, German Evangelical Synod; and Presbyterian.

In 1902 the State had no indebtedness except the following trust funds: School fund, $1,563,700; Normal school fund, $515,700; University fund $111,000; Agricultural College fund, $60,600; total, $2,251,000. The assessed valuation in 1900 was, real estate, $503,690,767; personal property, $126,309,233; total, $630,000,000; State tax rate, $2.136 per $1,000; and total taxes raised, $1,345,570.

The governor is elected for a term of two years, and receives a salary of $5,000 per annum. Legislative sessions are held biennially in odd years, beginning on the second Wednesday in January, and there is no limit to length of session. The Legislature has 33 members in the Senate and 100 in the House, each of whom receives $500 per annum and mileage. There are 11 representatives in Congress.

The region W. of Lake Michigan was first explored and occupied by French missionaries and traders in 1639, and the country was held thenceforward under French dominion till its surrender to Great Britain in 1763. Canadian law governed the territory, and the English kept possession with a military force at Green Bay till 1796, when it reverted to the Americans, who included it within the extended limits of their government of the Northwest Territories. In 1809 Wisconsin was annexed to the Territory of Illinois, as then formed, and so continued till the conversion of the latter into a State in 1818, when Wisconsin, which was yet a wilderness, was annexed to Michigan Territory, for such government as was needed. In 1827, lead was discovered in large quantities at Potosi and Mineral Point and there was a great rush of immigrants to that section. The Indians soon became troublesome, and the Black Hawk War ensued in 1832. In 1836, the population had increased to such an extent that a Territorial government was organized, which at first included a part of the upper peninsula of Michigan, the whole of Minnesota and Iowa, and that part of the Dakotas lying E. of the Missouri and White Earth rivers. On the admission of Michigan into the Union as a State, a part of the Lake Superior region was set off to her, and when the Territory of Iowa was formed it included all the region W. of the Mississippi. The first effort to procure the admission of Wisconsin to the Union as a State was made in 1846. A constitution drafted during that year was ratified in March, 1848, and the State was admitted to the Union, May 29, 1848.

Wisconsin, a river which rises on the northern border of Wisconsin state, runs southward, is nagivable at Portage City, and enters the Mississippi 4 miles below Prairie-du-Chien after a course of nearly 600 miles.

Wisconsin, University of, a co-educational, non-sectarian institution in Madison, Wis.; founded in 1838, and opened for instruction in 1851. It has four faculties, comprising Letters and Science, Law, Agriculture, and Engineering. It has grounds, buildings, library, and equipment valued at over $4,600,000, nearly 400 instructors, and over 4,500 students.

Wisdom of Solomon, The, the title of an apocryphal book, named in Greek Sophia Salomon, or Salomontos, generally placed sixth in order between "The Rest of Esther" and Ecclesiasticus. Its author professes that he is a king, and son of a worthy father, also a king. He himself prayed to God for wisdom and received it, wealth being superadded. God directed him to build a temple on the holy mount on the model of the tabernacle, from all of which it is obvious that the author claims to be Solomon, the son of David, King of Israel. The book is divided into 19 chapters. The first of these exhorts judges to love righteousness, and commends wisdom to them and others. The second denounces the unbelief of the ungodly, and traces to this source the wickedness of their lives. The third, fourth, and fifth point out that for the righteous there is a happy future, while an opposite destiny awaits the wicked. Chapters vi.-ix. highly commend wisdom. Portions of them resemble corresponding exhortations and descriptions in the Books of Proverbs. The advantages of wisdom are shown in chapters x.–xii. by illustrations taken from the history recorded in the Pentateuch. In chapters xiii.-xv. the folly of idolatry is exhibited in language of great beauty and force, and a philosophic explanation of its origin is attempted. The last four chapters contrast the providence which watches over the wise and the pious with the judgments which overtake idolaters and the ungodly, historical illustrations, as before, being derived solely from the Mosaic writings. Though the book is called "The Wisdom of Solomon," there is no reason to believe that he was its author. It was composed originally in Greek, probably by some Jew resident in Alexandria. It incorporates words from the Septuagint version of Isaiah iii: 10; xliv: 20 (about 284–246 B. C.) and therefore was subsequent to that date. The Apostle Paul was evidently acquainted with this book. It was at one time attributed to Philo, but critics now believe that it was written earlier than his era. Its more probable date was 150 to 50 B. C., or more approximately 120–80 B. C. If these dates are nearly correct, then Wisdom is the most ancient Jewish book except Daniel, in which the doctrine of rewards and punishments in a future state is clearly set forth; but it differs from Daniel in teaching the immortality of the soul, without reference to the resurrection of the body. It is the first book which identifies the serpent which tempted Eve with the Devil. No one can study the Book of Wisdom without entertaining high respect for its author, and deriving profit from his ethical teachings.

Wisdom Tooth, the popular name for the third molar in each jaw. They appear between the ages of 17 and 25, when a person may be presumed to have attained some degree of experience or wisdom.

Wise, Daniel, an American clergyman; born in Portsmouth, England, Jan. 10, 1813; came to the United States in 1832. He was editor of "Zion's Herald" at Boston, Mass., and various Sunday-school publications, and published a great number of works on varied subjects, mostly under the pen-names of "Francis Forrester" and "Lawrence Lancewood." He died Dec. 19, 1898.

Wise, Henry Alexander, an American statesman; born in Drummondtown, Va., Dec. 3, 1806; was educated at Washington College, Pa.; admitted to the bar in 1828; member of Congress in 1833–1843; minister to Brazil, under President Tyler, in 1844–1847; and Democratic governor of Virginia in 1856–1860. He opposed secession, but in 1861 joined the Confederate army as Brigadier-General. After the war he resumed the practice of law in Richmond, Va., and died there Sept. 12, 1876.

Wise, Henry Augustus, an American naval officer; born in Brooklyn, N. Y., May 12, 1819; entered the navy as midshipman in 1834, and rose to chief of the bureau of ordnance in

1866. Under the pseudonym of "Harry Gringo," he wrote "Tales for the Marines"; "Captain Brand of the Centipede"; etc. He died in Naples, Italy, April 2, 1869.

Wise, Isaac Mayer, a Jewish rabbi; born in Bohemia, April 3, 1819, settled in New York city in 1846. He resided in Cincinnati, O., after 1854, and became president of the Hebrew Union College. He was a leader of the reform movement in American Judaism; and besides editing the "Israelite," a weekly journal, he wrote extensively. Died in 1900.

Wise, Peter Manuel, an American alienist; born in Clarence, N. Y., March 7, 1851; was graduated at the Medical Department of the University of Buffalo in 1872; appointed a commissioner to locate and plan the State Insane Asylum for Northern New York in 1882; became president of the New York State Commission on Lunacy in 1896; Professor of Psychiatry at the University of Vermont in 1891–1895. Died in 1907.

Wisner, George Y., an American civil engineer; born in West Dresden, N. Y., July 11, 1841; was graduated at the University of Michigan; served in the government survey on the Mississippi river and on the Great Lakes in 1865–1880, and on surveys of the Mississippi, Illinois, and Des Plaines rivers in 1880–1884. He was next superintendent of the 10th and 11th United States Lighthouse districts. In 1887 he established a private practice. He died in 1906.

Wistar, Caspar, an American physician; born in Philadelphia, Pa., Sept. 13, 1761; received a classical education; was graduated at the Medical Department of the University of Pennsylvania in 1782; spent several years in England and Scotland; and returning to the United States in 1787 he began practice in his native city. He was Professor of Chemistry and the Institutes of Medicine at the College of Philadelphia in 1789–1792. In the latter year that institution was united with the Medical Department of the University of Pennsylvania, and he was there Adjunct Professor of Anatomy, Midwifery and Surgery in 1792–1808; then became Professor of Anatomy and held the chair till his death. He was the first to show that the posterior portion of the ethmoid bone was attached to the triangular bones. He died in Philadelphia, Pa., Jan. 22, 1818.

Wistar, Isaac Jones, an American penologist; born in Philadelphia, Pa., Nov. 14, 1827; received a collegiate education; and served in the Civil War as Brigadier-General of volunteers in 1862–1865. Subsequently he accepted the presidency of the Academy of Natural Sciences of Philadelphia; was inspector of the Eastern Penitentiary of Pennsylvania in 1892–1896; founded the Wistar Institute of Anatomy and Biology; was president of the State Board of Charities of Pennsylvania. Died in 1905.

Wistaria, a genus of plants having pinnate leaves and flowers in terminal racemes, the pod leathery. W. frutescens, a native of Virginia, Illinois, and other parts of North America of similar climate, found chiefly in marshy grounds, attains the height of 30 feet, and has beautiful racemes of fragrant bluish-purple flowers. W. chinensis or consequana, a native of China, has larger flowers in pendulous racemes, and branches 90 feet long.

Wister, Annis Lee (Furness), an American translator; born in Philadelphia, Pa., Oct. 9, 1830; married Dr. Caspar Wister; died in 1908.

Wister, Owen, novelist, b. in Philadelphia, July 14, 1860. He graduated from Harvard, qualified for a lawyer, but devoted himself to literature. His chief work is "The Virginian" (1902).

Witchcraft, supernatural power which persons were formerly supposed to obtain by entering into a compact with the devil. The compact was sometimes express, whether oral or written, when the witch abjured God and Christ, and dedicated herself wholly to the evil one; or only implied, when she actually engaged in his service, practised infernal arts, and renounced the sacraments of the Church. The express compact was sometimes solemnly confirmed at a general meeting at which the devil presided, and sometimes privately made by the witch signing the articles of agreement with her own blood, or by the devil writing her name in his

"black book." The contract was sometimes of indefinite duration, at other times for a certain number of years.

The witchcraft delusion in the latter part of the seventeenth century is one of the darkest blots on American colonial history. Originating in the hysteria of imaginative children it became a general popular madness, fostered, it is sad to say, by the highest educational authority in America, the faculty of Harvard College. Good men and women were tortured and executed, and even a clergyman, the Rev. Stephen Burroughs, a man of exemplary life, was hanged on imaginary charges. When the public conscience became aroused to the magnitude of the hideous wrong, and the General Court of Massachusetts appointed a day of fasting and supplication in atonement for the sacrifice of innocent lives, even then a circular was issued in the name of Harvard College, inviting reports of "apparitions, possessions, enchantments," etc. A monument was erected, some years ago, to Rebecca Nourse, one of the victims, on the hill where she perished, and her descendants have an organization which holds annual meetings in memory of their hapless ancestor.

The delusion broke out in 1692 in the family of the Rev. Mr. Parris, a minister at Salem, Mass. A company of girls had been in the habit of meeting a West Indian slave to study "black art." They suddenly began to act mysteriously, bark like dogs, and scream at something unseen. An old Indian servant was accused of bewitching them. The excitement spread and impeachments multiplied. A special court was formed to try the accused, and as a result the jails rapidly filled, and many were condemned to death. It was unsafe to express a doubt of a prisoner's guilt. Fifty-five persons suffered torture, and 20 were executed.

Witch Elm, or **Wych Elm,** a large tree 80 to 100 feet high; the trunk with an occasional girth of 50 feet. Indigenous in the N. of England and in Scotland. Called also the Scotch or mountain elm.

Witherspoon, John, an American educator; born in Yester, Haddingtonshire, Scotland, Feb. 5, 1722. He became president of Princeton College in 1768; delegate for six years from New Jersey to the Continental Congress; and a signer of the Declaration of Independence. He died near Princeton, N. J., Sept. 15, 1794.

Witte, Serge Julievich, Russian statesman, born at Tiflis, July 29, 1849. His father was a Dutch storekeeper. Witte was educated in Persia and at Odessa Univ.; worked as a journalist; entered railway service; became traffic manager; received a govt. finance position; became Director of Imperial Railroads, 1888; Minister of Finance; Imperial Chancellor and Prime Minister; and was created Count 1905, after his success in effecting the Treaty of Portsmouth, N. H.

Wittekind, or **Widukind,** the leader of the Saxons, who, driven from Westphalia by Karl the Great, annihilated the Frankish army on the Suntelgebirge in 782, during Karl's absence in Spain. A war of retaliation ensued, and after defeat at Osnabruck, Wittekind was forced to enter on negotiations, whose issue was that in 785 he accepted baptism in the imperial camp at Attigny, in Champagne. Karl, it is said, made him Duke of the Saxons and lord of Engern, and from his castle of Babilonie, near Lubeck, he exercised a mild and righteous sway till 807, when he fell in battle with Gerold, the Swabian duke.

Wittenberg College, a coeducational institution in Springfield, O.; founded in 1845 under the auspices of the Lutheran Church.

Witthaus, Rudolph August, an American toxicologist; born in New York city, Aug. 30, 1846; was graduated at Columbia University in 1867 and at the Medical Department of the University of New York in 1875; was Professor of Toxicology and Chemistry at Cornell University, and held similar chairs in other institutions. He became noted as an expert in poisons in connection with many murder cases.

Witwatersrand (Anglicized White Water Range), the name of a height of land in the Transvaal, South Africa, running S. and S. W. of Pretoria, and located between the Klip and Vaal rivers on the S. and the Limpopo on the W. It is about 100

miles long and extends nearly E. and W. with lat. 26° S. In 1886 gold was first discovered here, and since that date the region has developed into the most famous gold mining district in the world. The Boer war paralyzed its development for a time, and since the war scarcity of labor and heavy taxation have been unfavorable factors. Prior to the discovery of gold the land was thought to be good for nothing but to pasture cattle. It comprises an elevation on a barren plateau, and consists of sandstones, shales, conglomerates, and quartzites. At first mining was carried on along the surface but later shafts were sunk to a depth of 2,000 feet. A conservative estimate places the value of gold in this formation at $3,500,000,000, which is 10 times greater than the gold and silver product of the celebrated Comstock Lode. In this region are coal and iron.

Woburn, a city in Middlesex co., Mass.; on the Boston & Maine railroad; 10 miles N. W. of Boston; is the largest leather manufacturing center in New England; also has a considerable output of shoes, chemicals, dynamos, and lamps; was the birthplace of Benjamin Thompson (Count Rumford). Pop. (1910) 15,308.

Woden, or **Odin,** the principal deity of the German and Scandinavian mythologies, common to all Teutonic peoples. Woden, while not the creator, is the ruler of heaven and earth, the king of the deities. His celestial residence is the palace Heidskialf, in Asgard, from whence his two black ravens, Hugin (Thought) and Munin (Memory), are sent forth daily to gather and bring in tidings of all that is taking place in earth and heaven. He is also the god of war, holding his court in Valhalla, whither brave warriors pass after death to revel in joys of battle and the hunt, such as they loved best on earth. Woden became the wisest of the gods by the aid of a draught from Mimir's fountain, though in doing so he lost the sight of one eye.

Wodrow, Robert, a Scottish clergyman and historian; born in 1697; died, 1734. He was educated at Glasgow University, and became minister of the parish of Eastwood, Renfrewshire, in 1703, where he remained all his life. He published "The History of the Sufferings of the Church of Scotland" from the Restoration to the Revolution (two vols., 1721), and wrote a series of Scotch ecclesiastical biographies, the MSS. of which are preserved in Glasgow University. From these there have been edited for the Maitland Club, by Rev. Dr. Leishman, "Lives of the Reformers and most Eminent Ministers of the Church of Scotland" (3 vols., 1834-45). The Wodrow Society has published "Wodrow's Correspondence" (1842-43), edited by Rev. Thomas McCrie.

Wofford College, a coeducational institution in Spartansburg, S. C.; founded in 1854 under the auspices of the Methodist Episcopal Church.

Wolf, the vernacular name of certain species of the genus Canis. The common wolf (C. lupus) has very much the appearance of a large, long-legged, bareboned dog, with a long tail, which hangs over its haunches instead of being curled upwards. Distinguishing characters are to be found in the lank body, length of the snout in proportion to the head, sloping forehead, oblique eyes, and erect ears. The fur varies according to the climate with respect both to its nature and color. A full-grown wolf measures 5 feet 5 inches in length, whereof 18 inches belong to the tail; its height is 33 inches, and its weight over 100 pounds. The wolf's natural voice is a loud howl, but when confined with dogs it will learn to bark.

THE WOLF.

Wolf, Edmund Jacob, an American clergyman; born in Rebersburg, Pa., Dec. 8, 1840; was graduated at the Pennsylvania College, Gettysburg, in 1863, and then served with the Union army during the remainder of the Civil War. Subsequently he studied theology; was ordained in the Lutheran Church; and became Professor of New Testament Exegesis and Church History at the Theological Seminary, Gettysburg, Died in 1905.

Wolf, Theodore Frelinghuysen, an American physician; born in Kenvil, N. J., in 1847. His professional writings include works on tetanus and anæsthesia.

Wolf Dog, a variety of Canis familiaris, used for hunting; formerly abundant in Norway and Sweden, but now almost entirely confined to Spain. It is of large size, little, if any, smaller than the mastiff, nose pointed, ears erect, hair long and silky, usually white, with large patches of brown; tail curled over the back.

Wolfe, James, an English military officer; born in Kent, Jan. 2, 1727. From the first he was bent upon following his father's profession of arms; in 1742 he received an ensign's commission. In 1743 he took part in the famous battle of Dettingen, as adjutant of his regiment; in 1744 he obtained his captaincy; and in 1745–1746 he served against the Scotch, being present at the battles of Falkirk and Culloden. From 1749 to 1757, with occasional interruptions, such as a six months' residence in Paris, he was engaged in garrison duty in Scotland and England. In the mismanaged expedition against Rochefort (1757) Wolfe acted as quartermaster-general. The total failure of the operations brought disgrace to nearly all concerned; but it became known that had Wolfe's counsels been followed the result would almost certainly have been different. Pitt's attention was now decisively drawn to him as an officer of whom great things might be expected; and in 1758, with the full rank of colonel, he was appointed to the command of a brigade in the expedition against Cape Breton. A brilliant success was obtained.

Pitt was organizing his scheme for expelling the French from Canada; and the expedition which had for its object the capture of Quebec, the enemy's capital, he confided to Wolfe's command. Advanced to the rank of Major-General, and commanding 9,000 men, Wolfe sailed from England on Feb. 17, 1759, and on June 26, landed his forces on the Isle of Orleans, opposite Quebec. The system of defense adopted by his adversary Montcalm, was such as to offer no point of advantage. At last, having dropped down the river, and scaled the cliffs at a point insufficiently guarded, at daybreak of Sept. 13, Wolfe found himself on the Plains of Abraham, where Montcalm had no choice but to give battle. After a short struggle the French were driven from the field in complete rout; Montcalm was one of 500 killed; the capitulation of Quebec followed five days after; and its fall decided the fate of Canada. Wolfe died in the hours of victory, Sept. 13, 1759. In person he led the right till, thrice wounded, he was carried to the rear. He lived to hear the cry, "They run; see how they run!" and expired with the words, "Now God be praised, I will die in peace." His body was taken home and buried in Greenwich church, and a monument was erected to him in Westminster Abbey.

Wolf Fish, also named sea cat and swine fish, is a teleostean fish, allied to the blenny, and deriving its name from a peculiar development of the teeth, which consist of front incisors, above shelved, interlocking in an exact manner, three rows of palatal grinding teeth, and two rows of similar teeth in the lower jaw. It may attain a length of four or five feet. The fish feeds on mollusks and crustaceans. An allied species is found off the American coasts.

Wolfhound, or **Borzoi,** a breed of dog first imported in numbers into England from Russia, about the year 1885. In shape the borzoi is like a gigantic greyhound, though covered with a soft coat about the length of a deerhound's. In Great Britain the breed has become very popular owing to the peculiar grace and beauty of the animal. Though supposed to be able to attack and kill a wolf, in disposition and appearance the Russian wolfhound is so excessively gentle that doubts have been cast on its powers.

In recent trials with wolves in America it failed signally to accomplish the purpose.

A WOLFHOUND.

Wolseley, Garnet Joseph, Lord, an English military officer; born near Dublin, Ireland, June 4, 1833; entered the army as ensign in 1852; served with distinction in the Crimea, and was wounded at the siege of Sebastopol; engaged in the siege and capture of Lucknow during the Indian mutiny of 1857–1858; and was employed in 1860 in the Chinese war. He was dispatched to Canada in 1861, and again in 1867, having received command of the Red River expedition, which he carried to a successful issue. Three years afterward Wolseley was appointed to the command of an expedition to punish the King of Ashantee, and after a brief campaign he entered Coomassie (February, 1874), and received the submission of the king. After the defeat of a British force by the Zulus in South Africa in 1879 he was dispatched as high commissioner, but before his arrival the Zulus had been defeated at Ulandi. His next command was in Egypt in 1882, where his forces successfully stormed the lines of Tel-el-Kebir and captured Arabi Pasha. His army rank was raised to that of General. His next appointment was as Adjutant-General of the forces. When the Mahdi subdued the Sudan, and held General Gordon prisoner in Khartum, Wolseley was dispatched in 1884 with a relief expedition. He concentrated his forces at Korti, and sent a column across the desert to Khartum, but before its arrival the place had fallen; was commander of the forces in Ireland, 1890–1895; and was then made Field Marshal and Commander-in-Chief of the British army. He resigned as Commander-in-Chief in favor of Lord Roberts, in November, 1900.

Wolsey, Thomas, Cardinal, an English prelate; born in Ipswich, England, in March, 1471; was educated at Magdalen College, Oxford, where he took his degrees as a scholar of distinction. After quitting the university he was appointed to the parish of Lymington in Somerset. Then he became a private chaplain to the Archbishop of Canterbury, chaplain to Henry VII., and latterly Dean of Lincoln. When Henry VIII. became king the advancement of Wolsey was rapid. Successively he was appointed Canon of Windsor, Dean of York, Bishop of Lincoln, Archbishop of York, and his nomination as cardinal in 1515 and Pope's legate in 1518 completed his ecclesiastical dignities. In 1515 he was also appointed lord-chancellor of the kingdom. Part of his immense revenues he expended in display, and part more laudably for the advancement of learning. Wolsey lost the royal favor when he failed to obtain from Pope Clement a decision granting the king's divorce from Catharine of Aragon. He was banished from court, stripped of his dignities, found guilty of a præmunire, and sentenced to imprisonment. Finally he was arrested at Cawood Castle on a charge of high treason, and on his way to London as a prisoner died in Leicester Abbey, Nov. 29, 1530.

Woman's Christian Temperance Union. The National Woman's Christian Temperance Union was organized in Cleveland, O., in 1874. It is now organized in every State in the Union, and in every Territory. There are about 10,000 local unions, with a membership and following, including the children's societies, of about 500,000. The Woman's Christian Temperance Union has 40 distinct departments of work, presided over by

as many women experts, in the National society, and in nearly every State. All the States in the Republic except one have laws requiring the study of scientific temperance in the public schools, and all these laws were secured by the Woman's Christian Temperance Union; also the laws forbidding the sale of tobacco to minors. The first police matrons and most industrial homes for girls were secured through the efforts of this society, as were the refuges for erring women. Laws raising the age of consent and providing for better protection for women and girls have been enacted by many Legislatures through the influence of the department for the promotion of social purity. The World's Woman's Christian Temperance Union was founded through the influence of Frances E. Willard in 1883, and already has auxiliaries in more than 40 countries and provinces. The white ribbon is the badge of all the Woman's Christian Temperance Union members, and is now a familiar emblem in every civilized country.

Woman's College, an educational institution for women in Baltimore, Md.; founded in 1888 under the auspices of the Methodist Episcopal Church.

Woman's Relief Corps, an organization created by the mothers, wives, daughters, and sisters of Union soldiers of the Civil War of 1861–1865, for the purpose of aiding and assisting the Grand Army of the Republic, and to "perpetuate the memory of their heroic dead," to "extend needful aid to the widows and orphans," to "cherish and emulate the deeds of our army nurses," and to "inculcate lessons of patriotism and love of country among our children and in the communities in which we live." The organization is composed of departments, which are subdivided into corps, as well as detached corps in several States where no departments exist. There are about 35 departments, 2,866 corps, and over 161,600 members.

Wombat, in zoölogy, a burrowing marsupial from Australia and Van Dieman's Land, and the islands of Bass' Strait. It is from two to three feet long, with a short tail; of clumsy form, with stout limbs and a blunt muzzle; coat thick, of long, coarse, brownish-gray, woolly hair; head large, flat, broad, with small eyes and ears; fore feet with five and hind feet with four digits; soles broad and naked. The dentition resembles that of the Rodentia, especially in the chisel-like incisors. The wombat is nocturnal in habit, a vegetable feeder, digging up roots with its claws. It is of small intelligence, but is gentle, and capable of domestication to a limited extent. It is hunted for its flesh, which is highly esteemed and is said to resemble pork.

HAIRY NOSED WOMBAT.

Women, National Council of, in the United States a central council of women, to which all National societies organized for any purpose whatsoever come to hear what other National societies are doing on other lines. They counsel together as to any reform, or movement, in which all might cooperate. The council has a cabinet, and is fashioned on a plan similar to the Senate of the United States. Twenty National societies are represented in the council; they aggregate a membership of 1,200,000 women, the largest representative organization in the world. Mrs. Mary Lowe Dickinson, born in Fitchburg, Mass., 1839, and one of the most graceful and popular writers in the United States of the class of literature which aims for the betterment of humanity, is president of this influential organization.

Women's Clubs, General Federation of, in the United States, an organization incorporated in 1892, and composed of over 2,675 women's clubs, having a membership of 155 000 women in the United States and foreign countries. The purpose of the Federation is declared in its articles of incorporation to be "to bring into communication with one another the va-

rious women's clubs throughout the world, that they may compare methods of work.

Woman Suffrage, the right of women to exercise equally with men the voting privileges of citizenship. It is a part of the movement to secure for women a legal, political, and social equality with men that resulted from an article on the subject by John Stuart Mill in the "Westminster Review" in 1851; that has since been agitated in most of the civilized parts of the world; and that developed into an aggressive campaign in England, which reached its most acute stage in 1909-1912. Many of the extreme agitators, who became known as "Suffragettes" and "Suffragists," besieged with petitions the House of Commons, Premier Asquith, the Lord Mayor of London, and other public officials, and made demonstrations for which a considerable number were imprisoned for short terms.

In connection with the Presidential elections in the United States, in 1912 four States, Arizona, Kansas, Michigan, and Oregon adopted, and one State, Wisconsin, rejected, constitutional amendments conferring the suffrage on women on equal terms with men. These States made ten in all permitting equal suffrage, the others being Wyoming (1869), Colorado (1863), Utah (1896), Idaho (1896), Washington (1910), and California (1912). Woman suffrage in restricted form had been permitted in thirty States for several years. In Great Britain women have full suffrage for all public offices excepting members of Parliament; in Australia, Finland, Iceland, Isle of Man, and New Zealand, full suffrage; in Ontario, Nova Scotia, Manitoba, Quebec, British Columbia, and the Northwest Territory, all in Canada, and in Denmark and Sweden, municipal suffrage; and in France, if engaged in commerce, suffrage for judges of the Tribunal of Commerce.

Wood, the hard, solid stem of any plant; lignin, the principal constituent of all vegetable life. Wood thus only differs from vegetable fibers—cotton, flax, hemp, etc.—in its physical condition. Woody stems are divided into two great classes, according to the manner in which they grow. The first and most important class is the exogens or exogenous stems, so called on account of the annual increments being added on the outside of the stem just within the bark, and the layers of growth are seen in such stems in a series of concentric circles, each ring of which represents the growth of one year. This class embraces all the trees of temperate climates, and, indeed, the greater part of all tree life. The second class — endogenous stems — shows no rings of annual growth, but a cross section exhibits a series of dark spots, more or less closely studded, and always more densely packed toward the outer circumference.

For trade purposes wood is classified under two heads, as soft wood and hard wood, the leading representatives of the former being the numerous varieties of pine, and the latter embracing the oaks, beeches, ash, birch, and furniture woods generally. Dye woods form a class by themselves, and belong to a quite distinct trade. Wood before it can be properly used for any structural purposes, must be seasoned by some means of drying, so as to withdraw the vegetable sap from it. The common and best way of seasoning is to stack the wood in the open air, but this process is tedious, especially with large logs and hard wood. Submergence in water for some time hastens the seasoning operation, and steaming or boiling also renders wood quickly fit for employment, though it weakens the timber. A process of desiccation in heated chambers is practised for the seasoning of thin planks and boards used by joiners and cabinetmakers.

Besides its multifarious application as timber in engineering, shipbuilding, carpentry, and cabinet-making, wood has numerous important minor uses. It is a most valuable fuel, and the source of wood tar, pyroligneous acid, wood naphtha, and charcoal; and certain kinds of wood are now extensively pulped for employment in paper-making. The total editions of great New York newspapers are said to consume ten acres of wood in one day.

Wood, Charlotte Dunning, pen name, Charlotte Dunning, an American novelist; born in Poughkeepsie, N. Y., in 1858.

Wood, Edward Stickney, an American chemist; born in Cambridge, Mass., April 28, 1846; was graduated at the Medical Department of Harvard University in 1867; studied medicine and chemistry in Europe; and was appointed Professor of Chemistry at the Medical Department of Harvard University in 1876. He died in 1905.

Wood, Fernando, an American politician; born in Philadelphia, June 14, 1812. In 1820 he removed to New York city and entered business as a shipping merchant. He became identified with political organizations, being elected to Congress in 1841 on the Democratic ticket, serving one term. In 1850 he retired from business and in 1854 was elected mayor of New York; introduced various reforms and was reëlected almost without opposition. The riot troubles of 1857 prejudiced many citizens against the municipal administration and he was defeated for reëlection, but was again mayor in 1859. In 1861, when secession was under discussion, he recommended that New York should secede and become independent. He was elected to Congress in 1863 and 1867. He died in Washington, D. C., Feb. 14, 1881.

Wood, George, an American author; born in Newburyport, Mass., in 1799. He was clerk in the War Department (1819–1822), and later chief of a division in the United States Treasury Department. He published: "Peter Schlemihl in America"; "Marrying Too Late"; etc. He died in Saratoga, N. Y., Aug. 24, 1870.

Wood, James Frederick, an American clergyman; born in Philadelphia, Pa., April 27, 1813; was educated in England; returned to the United States and entered the banking business. In 1836 he went to Rome to study for the priesthood. After his ordination in 1844 he went to Cincinnati and became an assistant rector of the cathedral and afterward pastor of St. Patrick's church. In 1857 he became Bishop of Philadelphia, where he completed the magnificent cathedral; also laying the foundation at Overbrook of the Seminary of St. Charles. He was created archbishop in 1875. He was especially hostile to the introduction of political issues from other countries into the United States. He died June 20, 1883.

Wood, John Seymour, an American author; born in Attica, N. Y., Oct. 1, 1853; was graduated at Yale College and at Columbia Law School. He has written several books.

Wood, Leonard, an American military officer; born in Winchester, N. H., Oct. 9, 1860; was graduated at the Harvard Medical School in 1884. He was appointed 1st lieutenant and assistant surgeon in the United States army in 1886, and saw active service under General Miles in the Southwestern Territories in the operations against the Apache Indians; was medical and line officer of the expedition, and received a medal of honor for conspicuous gallantry. A short time before the outbreak of the Spanish-American War in 1898, he was detailed as physician at the White House. Having recruited the 1st United States Volunteer Cavalry popularly known as the "Rough Riders," he entered the war as its colonel. He was later promoted Brigadier-General of volunteers, and at the battle of San Juan Hill commanded one of the two brigades of Gen. Joseph Wheeler's cavalry division. After Santiago's surrender he was made military commander of the city, July 20, 1898, and afterward of both city and province. His administration was very efficient and American methods took the place of the Spanish regime. He was appointed a Major-General, U. S. V., in 1899, and a Brigadier-General, U. S. A., in 1901; was promoted Major-General, U. S. A., in 1903; and became Chief of Staff, U. S. A., in 1909. He commanded the Military Division of the Philippines in 1906–1908, and the Department of the East in 1908–1909; and was awarded a Congressional Medal of Honor for services in the Apache campaign (1886) in 1898.

Wood, Thomas John, an American military officer; born in Munfordville, Ky., Sept. 25, 1823; was graduated at the United States Military Academy in 1845; served with General Taylor in the Mexican War; served on the Texan and Kansas frontier for 12 years; and through the Civil War in the Army of the Cumberland. He was promoted Major-General of volunteers in 1865; and mustered out of the volunteer service Sept. 1, 1866. He was brevetted 1st lieutenant, U. S. A., for

gallant and meritorious conduct in the battle of Buena Vista, Brigadier-General for Chickamauga, and Major-General for Nashville. Died in 1906.

Wood, Walter Abbot, an American inventor; born in Mason, N. H., Oct. 23, 1815; early turned his attention to the perfection of farming implements; and in 1850 introduced the Mauny harvesting machine with original improvements, of which in 1851 he made and sold nearly 200. He continued to improve the mowers and reapers and in 1884 disposed of 48,300 machines. His improvements were covered by about 30 patents. He was a member of Congress in 1879–1883. He died in Hoosick Falls, N. Y., Jan. 15, 1892.

Wood-Allen, Mary, an American author; born in Delta, O., Oct. 19, 1841; was graduated at the Ohio Wesleyan University in 1861, and at the Medical Department of the University of Michigan in 1875. She then studied abroad; practised medicine for a time in Newark, N. J., and later removed to Ann Arbor, Mich. Her publications include "Man Wonderful in House Beautiful"; "Child Confidence Rewarded," etc.

Wood Ant, an exceedingly common species. Found in woods, where it heaps up a great mass of vegetable fragments, beneath which the nest is continued in a great extent of subterranean passages and chambers. The wood ant possesses no sting, but has the power of ejecting its acid secretion to keep enemies at a distance.

Wood Baboon, the Cynocephalus leucophæus, allied to, but smaller than the mandrill. It is a native of the coast of Guinea. Called also cinereous baboon, drill, and yellow baboon.

Woodberry, George Edward, an American poet; born in Beverly, Mass., May 12, 1855; was graduated at Harvard College in 1877; was Professor of English Literature in Nebraska State University in 1877–1878 and 1880–1882; in Columbia College in 1892. Besides numerous articles in magazines and reviews, he wrote: a "History of Wood Engraving"; "Makers of Literature," etc.

Woodchuck, a small American burrowing rodent, ranging from the Carolinas to Hudson Bay, and W. from the Atlantic coast to Missouri, Iowa, and Minnesota. The woodchuck is a vegetable feeder, and may be easily tamed; called also the ground hog.

Woodcock, an American game bird, a great favorite with hunters, and regarded as one of the choicest dishes for the table. Like other game birds, it is protected by law at certain seasons. One of the most interesting traits about the woodcock is the fact of its occasionally conveying its young through the air; which is done by only one or two other birds. When the parent bird wishes to convey her young one from a place of danger to one of safety, the tiny thing is gently pressed between the feet and against the breast, the aid of the bill only being resorted to when the burden has been hastily taken up. The well-known woodcock of the Old World is a larger bird, but resembles the American species in plumage and habit, and like it, is esteemed for the table.

Wood Engraving, the art of engraving designs on wood. It differs from copper and steel plate engraving by having the parts to be printed on the paper in "relief." While plates are printed from the engraved lines by a laborious and necessarily slow process wood engravings, having the object to be represented on the surface, in the manner of a type, may be printed along with the matter they are intended to illustrate on the ordinary printing machine. This, of course, is an important point in the illustration of books, on the ground of cheapness and expedition. Another advantage wood engravings possess is that they can be multiplied to any extent by means of the electrotype process.

The invention of wood engraving, like that of gunpowder, has been claimed for the Chinese, whose books have been printed from engraved wood blocks for ages. It has been asserted that the art of cutting figures in relief, and printing impressions of them on paper, was known and practised by that nation as early as the reign of the renowned Emperor Wu-Wang (1120 B. C.). It was not, however, till the beginning of the 15th century that we find any evidence of the existence of wood engraving, as we now understand it. It appears to have been used in Germany at that time for printing

playing cards and figures of saints. The earliest print of which any certain information can be obtained was discovered in one of the most ancient convents of Germany pasted within the cover of a Latin MS.; it represents St. Christopher carrying the infant Saviour across the ferry, and is dated 1423. It is a work of some merit, notwithstanding its apparent roughness; the infant Saviour and the drapery of the saint being drawn with considerable skill and vigor.

Previous to the invention of movable types whole books of text were also engraved in wood, and the impressions had evidently been taken by rubbing on the back of the paper, instead of steady pressure, as in the printing press.

The psalter printed by Fust and Schoffer at Mainz in 1457 is illustrated with initial letters engraved on wood, and printed in two colors, blue and red, which have been called "the most beautiful specimens of this kind of ornament which the united efforts of the wood engraver and the pressman have produced. They have been imitated in modern times, but not excelled." It is worthy of note that, though printed upward of 400 years ago, the freshness and purity of the colors remain unimpaired.

As printing spread, the publication of illustrated books became general in Germany and Italy, and reached England in 1476; in which year Caxton published the second edition of the "Game and Playe of the Chesse," with figures of the different pieces. The first attempt at something finer than simple lines appears in the frontispiece to the Latin edition of Breydenbach's "Travels," printed at Mainz by Erhard Reuwich, 1486. It is by an unknown artist, is an elaborate and really very beautiful specimen of the art, and is also remarkable as being the first engraving introducing "cross hatching" to represent dark shadows.

About the beginning of the 16th century a complete revolution in the art of wood engraving was accomplished by the genius of Albert Durer. His productions exhibit not only correct drawing, but a knowledge of composition and light and shade, and attention to the rules of perspective, which, with the judicious introduction of subordinate objects, elevated them to the rank of finished pictures. There has been considerable discussion as to the probability of Durer having also engraved his drawings. Most of the best authorities on the subject agree in the negative.

During the first half of the 16th century the publication of books illustrated with wood engravings still increased, and prevailed to a greater extent than at any other time, with the exception of the present day. The most remarkable work published at this time was the "Dance of Death" issued at Lyons in 1538. The original edition of this curious work contained 41 engravings, representing the struggle between Death, generally in the form of a skeleton, and different individuals, such as the Pope, the emperor, a judge, monk, doctor, duchess, old man, etc. The drawings, which are characterized by great vigor and skill, are generally understood to have been executed by Hans Holbein. John Daye published almost the only illustrated books of the time in England, notably Queen Elizabeth's prayer book, which contains a tolerably well executed portrait of Her Majesty. There is no certain knowledge about any of the artists or engravers, though John Daye is supposed to have engraved some of his blocks himself. At this time also the practice of printing wood engravings in colors from different blocks became somewhat common, though the attention of artists in that line was mostly confined to ornamental subjects.

From the beginning of the 17th century the art fell into a state of great neglect, not apparently for want of engravers, for woodcuts of a certain kind were always produced, but for want of artists able or willing to make drawings worthy of preservation.

It was not till the genius of Thomas Bewick was brought to bear on it that wood engraving received that impetus which has made it one of the most important of the illustrative arts. Bewick's most important works are his "History of British Quadrupeds" (1790) and of "British Birds" (1804); all the quadrupeds and almost all the birds were drawn and engraved by himself. The birds especially are executed with a truthfulness and skill which has rarely if ever been equalled.

These works are also famous for their collection of tailpieces, which display an infinite amount of humor and pathos. He entirely abandoned the elaborate system of "cross hatching" which prevailed so much in the works of the older engravers, and produced his light and shade by the simplest possible means. Since Bewick's time wood engraving has continued to flourish without interruption.

The closing quarter of the 19th century was an important period in the history of wood engraving, from the rise of what has been called the American school, which has had a considerable effect and many followers in England. It is typified in many of the finer illustrated magazines published in the United States and England, and much of their work is very beautiful.

Woodford, Stewart Lyndon, an American lawyer; born in New York city, Sept. 3, 1835; served with gallantry in the Civil War, retiring with the rank of Brigadier-General of volunteers by brevet; on the cessation of hostilities he resumed the practice of law; in 1866 was elected lieutenant-governor of New York on the ticket with Reuben E. Fenton; in 1872 member of Congress from the 3d Congressional District (Brooklyn); in 1877 appointed United States Attorney for the Southern District of New York. In 1897 he was appointed minister to Spain, which post he held till the beginning of the Spanish-American War in 1898.

Woodhull, John Francis, an American scientist; born in Westport, N. Y., July 2, 1857; was graduated at Yale University in 1880; became Professor of Physical Science at the Teachers' College, Columbia University, in 1888; and a lecturer on university extension.

Woodlark, a bird differing from the skylark in its smaller size, its shorter tail, more distinctly marked breast, and a conspicuous light-colored streak extending over each eye and the ear coverts. Its note has neither the power nor variety of the skylark, but is superior in quality of tone and is longer in duration. The nest is composed of grasses, moss, and hair, placed on the ground; eggs usually four or five, white covered with little red-brown spots.

Woodmen of America, Fraternity of Modern, a fraternal benefit society organized in 1883; has over 14,000 local camps and a membership of nearly 1,050,000.

Woodmen of the World, a fraternal benefit society founded in 1891; has a membership of nearly 500,000.

Wood Nymph, a fabled goddess of the wood; a dryad. In zoölogy, the common name of the beautiful lepidopterous insects comprised in the genus Eudryas.

Woodpecker, in ornithology, the popular name of the old Linnæan genus Picus, now greatly divided. Woodpeckers have a slender body,

GREEN WOODPECKER.

powerful beak, and protrusile tongue, which is sharp, barbed, and pointed, and covered with a glutinous secretion derived from glands in the throat, this coating being renewed every time the tongue is drawn within the bill. The tail is stiff and serves as a support when the birds are clinging to the branches or stems of trees. Woodpeckers are very widely distributed, but abound chiefly in warm climates. They are solitary in habit, and live in the depths of forests. Fruits, seeds, and insects constitute their food, and in pursuit of the latter they exhibit

wonderful dexterity, climbing with astonishing quickness on the trunks and branches of trees, and when, by tapping with their bills, a rotten place has been discovered, they dig vigorously in search of the grubs or larvæ beneath the bark.

Wood Pigeon, a bird distributed generally over Europe. Varieties more or less spotted with white often occur, and perfect albinos are sometimes met with. The food of the wood pigeon consists of corn and grain, beech-mast, peas, tares, acorns, the young shoots of turnip tops, and spring-sown corn; and as these birds make no return to the farmer by destroying his insect foes, their rapid increase is a source of grave anxiety to agriculturists.

Wood Pulp, a preparation of wood used in the manufacture of paper and in other industries. There are two kinds of wood pulp, one known as ground or mechanical, and the other as chemical. The first is the cheapest and is used chiefly for making newspaper and common wrapping paper stock. In this kind spruce wood is most commonly employed, because it is cheap and gummy, the latter quality being valuable in that it adds much to the tenacity of the material made from the pulp.

Chemical wood pulp is made by cutting up spruce and poplar logs into small chips, which are then placed, with a liquor, in enormous tanks to be digested. Book and magazine papers are now made from chemical wood pulp. The pulp is also put to many other uses. Basins, buckets, cups, and many small articles are made from it and it is employed in the so-called "paper car wheel." In Prussia bricks of this material are found excellent for building underground conduits, because of their insulating properties. Pipes and drain tiles, as well as telegraph poles, are made of wood pulp, and in Europe a manufacturer has put on the market wood pulp coffins, highly polished and artistic in appearance. In 1894 imitation silk thread was made from it in England and France and found to be smooth and durable.

Woodrow, James, an American educator; born in Carlisle, England, May 30, 1828. He edited the "Southern Presbyterian Review" in 1861–1865, and after 1865 was editor of the "Southern Presbyterian." He became professor in various Southern colleges, and president of South Carolina College in 1891. He died Jan. 17, 1907.

Woodruff, Edwin Hamlin, an American lawyer; born in Ithaca, N. Y., Sept. 2, 1862; was graduated at Cornell University School of Law in 1888, and admitted to the bar in the same year; was instructor of English at Cornell in 1888–1890; acting Professor of Law at Leland Stanford University in 1893–1896; then became Professor of Law at Cornell.

Woodruff, Wilford, an American Mormon; born in Northington (now Avon), Conn., March 1, 1807; was ordained a Mormon priest in 1833; was one of the Mormon emigrants to Salt Lake City; became one of the 12 apostles in 1839; and later made missionary tours covering over 150,000 miles. In 1887 he was elected president of the Mormon Church. For 22 years he held a seat in the Utah Legislature. He died in Salt Lake City, Utah, Sept. 3, 1898.

Woods, Mrs. Kate (Tannatt), an American writer; born in Peekskill, N. Y., in 1838. Among her books are: "The Duncans on Land and Sea"; "Six Little Rebels"; "Espanola," etc.

Woods, Katharine Pearson, an American writer of fiction; born in Wheeling, W. Va., Jan. 28, 1853. Her published works include: "The Crowning of Candace"; "The True Story of Captain John Smith," etc.

Woods, William Burnham, jurist; born in Newark, O., Aug. 3, 1824; graduate of Yale, became a lawyer, Speaker of the Ohio legislature, maj.-gen. in the Union army, Chancellor of Alabama 1868, circuit judge, and 1880 judge of the U. S. Supreme Court. Died May 14, 1887.

Woodward, Robert Simpson, physicist and educator, born in Rochester, Mich., July 21, 1849; graduate of Univ. of Mich. 1872, was associated with the U. S. Lake Survey, U. S. Transit of Venus Commission, U. S. Geological Survey, U. S. Coast and Geodetic Survey, wrote many valuable books, and in 1893 became professor, and later dean, of Columbia Univ. N. Y. C. In 1905 he became Pres. of the Carnegie Institution.

Woodworth, Samuel, an American journalist; born in Scituate, Mass., Jan. 13, 1785. During the War of 1812–1815 he edited, in New York city, "The War," a weekly journal, and "The Halycon Luminary," a Swedenborgian monthly. He was one of the founders of the New York "Mirror" (1823–1824); edited the "Parthenon" (1827); wrote a romantic history of the war, called "The Champions of Freedom" (2 vols. 1816), and several dramatic pieces. His political works were published in two volumes in 1861. His famous poem is "The Old Oaken Bucket." He died in New York city, Dec. 9, 1842.

Wood Wren, a species often confounded with the willow wren, from which, however, it may be distinguished by its larger wings, a broad streak of sulphur-yellow over the eye and ear coverts and its plumage, which is green above and white below. It differs, also, from most of the warblers in eating neither fruit nor berries, but subsisting on insects or their larvæ. The nest is oval, domed, and placed on the ground; eggs six, transparent, white, thickly spotted with dark purplish-brown.

Wool, the fleecy covering or pile of the sheep, and some other animals, as the alpaca, the vicugna, and some species of goats. Wool is generally divided into three classes, long, short, and coarse; and these are divided into subordinate classes according to fineness. Wool is divided into pulled and clipped fleece wool. Pulled wool is pulled by the roots from the skin of the dead animal, the clipped is shorn from the living one. Short-staple wool is used in cloth manufacture, and is frequently called clothing wool. To this class belong the Saxon and Silesian wool of Germany, a portion of the wool of Australia, of the Cape of Good Hope, Buenos Ayres, Russia, Canada, and the bulk of the wool produced in the United States. Short-staple wool may vary in length from 1 to 3 or 4 inches; if it be longer it requires to be cut or broken to prepare it for manufacture. The felting property of wool is well known. Hat making depends entirely on it. The wool of which hats are made is neither spun nor woven, but locks of it being thoroughly intermixed and compressed in warm water cohere and form a solid tenacious substance. Cloth and woolen goods are made from wool possessing this property. But the long wool of which stuffs and worsted are made is deprived of this felting process. This is done by passing the wool through heated iron combs, which takes away the laminæ or feathery part of the wool, and approximates it to the nature of silk or cotton. Long-staple wool is also called combing wool, and delaine wool. To this class belong the long lustrous, down-combing English wool of Leicester, Lincolnshire, and Cotswold; the soft-combing wool of Rambouillet of France; the soft long-staple wool of Australia; the cheviot of Scotland, and the combing wool of Canada, Ohio, Kentucky, Pennsylvania, New York, Maine, and other parts of the United States. The French and Australian are most esteemed for women's dress goods, such as merinos, cashmeres, thibets, and the like; the cheviot for Scotch tweeds, and the English usually for worsted goods. Long wool may vary in length from 3 to 8 inches. The shorter combing wools are principally used for hose, and are spun softer than long-combing wools; the former being made into what is called hard and the latter into soft worsted yarn. To the third class, the coarse-staple wools which are adapted for carpets, belong the Donski, and other coarse Russian wool, the native South American, Cordova, Valparaiso, native Smyrna, and other wool.

In sorting wools there are frequently found 8 to 10 different species in a single fleece; and if the best wool of one fleece be not equal to the finest sort it is thrown to a second, or third or fourth, or still lower sort, of an equal degree of fineness with it. The relative value of each varies according to the greater demand for coarse, fine, or middle cloths. The softness of the fiber is a quality of great importance. It is not dependent on the fineness of the fiber, and consists of a peculiar feel, approaching to that of silk or down. The difference in the value of two pieces of cloth

made of two kinds of wool equally fine, but one distinguished for its softness and the other for the opposite quality, is such that with the same process and expense of manufacture, the one will be worth from 20 to 25 per cent. more than the other. In clothing wool the color of the fleece should always approach as much as possible to the purest white, because such wool is not only necessary for cloths dressed white, but for all cloths that are to be dyed bright colors, for which a clear white ground is required to give a due degree of richness and luster and evenness of shade. Whiteness of fleece is of less importance in the long-combing than in clothing wool, provided it be free from gray hairs. Sometimes the fleece has a dingy brown color, called a "winter stain," which is a sure indication that the wool is not in a thoroughly sound state. Such fleeces are carefully thrown out by the wool sorter, being suitable only for goods that are to be dyed black. The fineness of heavy-combing wool is not of so much consequence as its other qualities.

The art of forming wool into cloth and stuffs was known in all civilized countries, and in very remote ages. Woolen cloths were made an article of commerce in the time of Julius Cæsar and are familiarly alluded to by him. They were made in England before A. D. 1200, and the manufacture became extensive in the reign of Edward III. (1331). The policy of England toward the American colonies was directly intended to discourage and repress manufactures of all kinds, those of woolen goods included. The actual result was that the domestic manufactures of coarser or "home-made" cloths became very widely spread and considerable, and the importations of foreign cloths were proportionally small. The supply of wool appears to have been large, and it was mostly worked up and disposed of within the colonies. The report of Alexander Hamilton on manufactures, in 1791, speaks of a mill for cloths and cassimeres in operation at Hartford, Connecticut. In 1794 there was a woolen factory in Newbury, Mass., and in the same year a carding machine for wool was put in operation in Pittsfield, Mass. President Madison's inaugural suit of black broadcloth was made at Pittsfield in 1804. The United States has produced the best inventions for making felted goods, carpetings, and the like. The principal centers of the woolen industry in the United States are in New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, and Pennsylvania.

Woolley, Mrs. Celia (Parker), an American author and minister; born in Toledo, O., June 14, 1848. She was pastor of the Unitarian Church at Geneva, Ill., for three years; of the Independent Liberal Church at Chicago (1896–1898); and wrote: "A Girl Graduate," "Rachel Armstrong; or, Love and Theology," etc.

Woolly Rhinoceros, probably the best-known form of the extinct rhinoceroses, specimens having been found imbedded in ice. The skin was without folds and covered with hair and wool; there were two horns, the anterior one being of remarkable size, and the nostrils were separated by a complete bony partition. The geographical range of the woolly rhinoceros was over the N. latitudes of Europe and Asia, but, unlike the mammoth, it did not cross Bering Straits.

Woolman, John, an American Quaker preacher and anti-slavery writer; born in Northampton, N. J., in August, 1720. His writings contain the earliest protest published in America against the slave trade. His works include: "Some Considerations on the Keeping of Negroes," "Considerations on Pure Wisdom," etc. He died in York, England, Oct. 5, 1772.

Woolsack, the name given to the seat of the Lord Chancellor of England in the House of Lords, whose essential portion is a large square bag of wool without either back or arms, and covered with red cloth, the whole forming a kind of cushioned ottoman, standing near the center of the chamber. It is believed that woolsacks were placed in the House of Lords in the time of Edward III. to remind the peers of the importance of England's staple trade. In 1621 it was declared in the standing orders of the House of Lords that "the Lord Chan-

cellor sitteth on the Woolsack as Speaker to the House," not in his judicial capacity.

Woolsey, Sarah Chauncey, pen name Susan Coolidge, an American author; born in Cleveland, O., in 1845. She was a popular writer, especially for children. Writings include: "What Katy Did" and "A Little Country Girl." She died in 1905.

Woolsey, Theodore Dwight, an American educator; born in New York city, Oct. 31, 1801; was graduated at Yale College in 1820; studied law and later theology; was tutor at Yale in 1823–1825; licensed to preach in 1825; studied in Europe in 1827–1830; was Professor of Greek at Yale from 1831 to 1846; and then its president till 1871. In 1871–1881 he was president of the American company of revisers of the New Testament. He died in New Haven, Conn., July 1, 1889.

Woolson, Mrs. Abba Louisa (Goold), an American lecturer and author; born in Windham, Me., April 30, 1838. She lectured on literary, social, historical, and dramatic subjects; and besides contributing to periodicals published: "Women in American Society," and "Dress as it Affects the Health of Women," a series of lectures.

Woolson, Constance Fenimore, an American novelist and poet; born in Claremont, N. H., March 5, 1848. Her principal books are: "Castle Nowhere," "Jupiter Lights," "Horace Chase." She died in Venice in January, 1894.

Woolwich, a former town of Kent, England, now a metropolitan borough of London, on the Thames, 8 miles below London Bridge. It stretches about 3 miles along the river, and owes its importance to the great arsenal, which has a circumference of 4 miles, and consists of gun and carriage factories, laboratory, barracks, ordnance departments, etc.

Woonsocket, a city of Providence Co., R. I., 16 miles N. W. of Providence, and 40 miles S. W. of Boston. It is an industrial center with cotton and woolen factories, machine-shops, rubber-works, iron-foundries, etc. Pop. (1910) 38,125.

Woorali Poison. See CURARI.

Wooster University, a coeducational institution in Wooster, Ohio; founded in 1869 under the auspices of the Presbyterian Church.

Wootz, a superior steel from the East Indies, imported into Europe and America for making the finest classes of edge-tools.

Worcester, a city in Worcester co., Mass.; at the source of the Blackstone river; 44 miles W. of Boston. It is built largely in a valley and on several hills. The city is well laid out with broad, regular, and well shaded streets.

Worcester is said to manufacture a greater variety of articles than any other city in the United States. It has the largest wire works in the world, employing about 4,000 persons. Among the other articles produced to a large extent are textiles, envelopes, shoes, cotton, and wool machinery, brussels carpets, woolen goods, machinists' tools, corsets, mowing machines, wood-working machinery, agricultural tools, and bicycles. There are 7 National banks in operation with a combined capital of about $1,900,000. In the year ending Sept. 30, 1901, the exchanges at the United States clearing house here were $74,397,774, an increase over the preceding year of $7,605,403. The city has many periodicals. The assessed property valuations are real estate, $88,053,500; personal property $25,269,600; total, $113,323,100. On Aug. 6, 1901, the total bonded debt was $9,859,000.

Worcester has an area of 34 square miles; 188 miles of streets, of which 12 miles are paved; a system of waterworks costing $3,670,000, with 185 miles of mains, and an average daily consumption of 10,000,000 gallons; and a sewer system covering 158 miles. The streets are lighted by gas and electricity. There is a public school enrollment of nearly 20,000 pupils, and annual expenditures for public education of nearly $530,000. The maintenance of the city government costs annually about $3,300,000. The city contains Clark University, Worcester Academy (Bapt.), the Worcester Polytechnic Institute, College of the Holy Cross (R. C.)., the Massachusetts State Normal School,

also the Highland Military Academy.

Worcester was founded in 1674, but the settlers were soon driven away by the Indians. A second attempt was made to found a settlement in 1684, but after a few years the Indians again forced the whites to withdraw. The place was permanently established in 1713. It was incorporated in 1822, and chartered as a city in 1848. Owing to its location in the State, and in a rich agricultural region it is known as the "Heart of the Commonwealth." Pop. (1910) 145,986.

Worcester, Dean Conant, an American educator; born in Thetford, Vt., Oct. 1, 1866; was graduated at the University of Michigan in 1889; traveled in 15 of the Philippine Islands in 1887–1889; was instructor of animal morphology at the University of Michigan in 1893–1896, and became assistant professor in the latter year. In 1890–1892 he again traveled in the Philippines with Dr. F. S. Bourns, in a tour known as "the Menage Scientific Expedition." In January, 1899, he was appointed one of the United States commissioners to the islands to investigate and report on conditions there. In March, 1900, he was appointed a member of a Civil Commission, under the presidency of Judge William H. Taft, to "continue and perfect the work of organizing and establishing civil government already commenced by the military authorities, subject in all respects to any laws which Congress may hereafter enact." Under the work of this commission civil government for the Philippines was inaugurated at Manila, July 4, 1901, with Judge Taft as first civil governor.

Worcester, Edward Somerset, Marquis of, one of the earliest inventors of a steam engine; born about 1601. He was engaged in the service of Charles I. during the civil war, and was imprisoned in the Tower from 1652–1655. He afterward spent his time in retirement, and in 1663 published a book entitled, the "Scantlings of One Hundred Inventions," in which he first gave a description of the uses and effects of his steam engine. He died in 1667.

Worcester, Joseph Emerson, an American lexicographer; born in Bedford, N. H., Aug. 24, 1784. He was graduated at Yale in 1811, and very shortly began his life work as a dictionary maker. His first publication was: "A Geographical Dictionary, or Universal Gazetteer," followed by "Gazetteer of the United States," "Elements of Geography," "Sketches of the Earth and its Inhabitants," "Elements of History." In 1830 he published the "Comprehensive Pronouncing and Explanatory English Dictionary." In 1860 he published the great quarto, "Dictionary of the English Language" (illustrated), a standard authority wherever the English tongue is spoken. In 1820 he settled in Cambridge, Mass., and died there, Oct. 27, 1865.

Worcester Polytechnic Institute, a technical, non-sectarian institution in Worcester, Mass.; founded in 1865.

Worden, John Lorimer, an American naval officer; born in Sing Sing (now Ossining), Westchester co., N. Y., March 12, 1818; was appointed a midshipman in the navy, Jan. 10, 1834. At the beginning of the Civil War he was captured by the Confederates, and after being held seven months was exchanged. He was ordered to the command of John Ericsson's "Monitor," which left New York March 6, 1862. He arrived at Hampton Roads on the evening of the 8th, after the iron-clad "Merrimac" had destroyed the wooden frigates "Cumberland" and "Congress." On the morning of the 9th a memorable battle was fought by the "Merrimac" and "Monitor," the former of which was partly disabled and abandoned the fight, after several violent collisions with the "Monitor." He was promoted commander in 1862, captain in 1863; and commanded the iron-clad "Montauk" in the operations against Fort Sumter in April of that year. In June, 1868, he was promoted commodore, and in 1872 rear-admiral. He was superintendent of the Naval Academy at Annapolis in 1870–1874; commander-in-chief of the European squadron in 1875–1877; and was retired, at his own request, with full sea pay, Dec. 23, 1886. He died in Washington, D. C., Oct. 17, 1897.

Wordsworth, William, an English poet; born in Cockermouth, Cumberland, April 7, 1770. He was the son of an attorney and in 1787 was sent to St. John's College, Cambridge. He crossed to France in November, 1791, and exhibited vehement sympathy with the revolution, remaining in France for nearly a year. After his return, disregarding all entreaties to enter on a professional career, he published his "Evening Walk and Descriptive Sketches." Two years afterward he received a legacy of $4,500 from Raisley Calvert. With this sum and the consecrated helpfulness of his sister Dorothy he contrived to keep house for eight years, while he gave himself to poetic effort as his high "office on earth." Coleridge induced the Wordsworths to go to Alfoxden, in his immediate neighborhood. Here the two poets held daily intercourse, and after a year they published "Lyrical Ballads" (1798) in literary copartnership.

After a winter spent in Germany, Wordsworth and his sister settled at Grasmere (1799), where he proposed to write a great philosophical poem on man, nature, and society. Thenceforth his life was marked by a few incidents. Those worth noting are his marriage in 1802 with his cousin Mary Hutchison; a removal from Grasmere to Allan Bank in 1808; his appointment in 1813 to an inspectorship of stamps, and his removal to Rydal Mount; several journeys into Scotland and to the Continent; his acceptance of a D. C. L. degree conferred on him in 1839 by the University of Oxford; and his accession in 1843 to the laureateship on the death of Southey. Died in Rydal Mount, April 23, 1850.

Work, in physics, the act of producing a change of configuration in a system in opposition to a force which resists that change. For example, in raising a mass from the earth's surface, work is done in overcoming the attraction between the earth and the mass, and the work done is measured by the product of this weight into the distance through which it is overcome. To do this work, a certain force must be applied, a certain transformation of energy accomplished. The principle of work done is a particular statement of the doctrine of the conservation of energy, and was clearly enunciated, as far as it concerns pure dynamics, by Newton in the scholium to the third law of motion. This scholium is thus paraphrased by Thomson and Tait: "Work done on any system of bodies has its equivalent in work done against friction, molecular forces, or gravity, if there be no acceleration; but if there be acceleration, part of the work is expended in overcoming the resistance to acceleration, and the additional kinetic energy developed is equivalent to the work so spent." Mathematically interpreted, this theorem is an explicit statement of the dynamical principle first formulated by D'Alembert in 1742, and still known by his name — a principle which enables us to write down the equations of motion for any system for which the equations of equilibrium have been investigated. Any alteration in the configuration of a material system indicates that work is being done on it by the forces to which it is subject.

Work, Henry Clay, an American song writer; born in Middletown, Conn., Oct. 1, 1832. He was highly popular in three different classes of songs: of the War, as "Kingdom Comin'," "Wake Nicodemus," "Babylon is Fallen," "Marching Through Georgia"; of temperance, as "Father, Dear Father, Come Home with Me Now"; sentimental, as "My Grandfather's Clock," and "Lily Dale." He died in Hartford, Conn., June 8, 1884.

Working Drawing, a drawing or plan, as of the whole or part of a structure, machine, or the like, drawn to a specified scale, and in such detail as to form a guide for the construction of the object represented.

Workman, William Hunter, an American traveler. He wrote: "Sketches Awheel in Modern Siberia"; (with his wife, Fanny Bullock Workman) "In the Ice World of Himalaya" (1900).

World, in the widest sense, the universe; the whole system of created things (as contradistinguished from God). In the narrower sense it means the terraqueous globe.

Wormeley, Katharine Prescott, an American author, and translator; born in Ipswich, England, Jan. 14, 1830. She came to the United States in girlhood, and was engaged in the relief of Union soldiers during the Civil War. She was best known as a translator of Balzac's novels, and of the Duc de Saint-Simon's "Memoirs," and wrote: "The Other Side of War," "The United States Sanitary Commission," etc. Died in 1908.

Worms, a division of the animal kingdom, which may be taken to indicate (1) the class Annelida, the members of which have jointed bodies, and want true articulated appendages; and (2) such animals as the parasitic tapeworm, the nematoid worms, the thornheaded worms, and allied forms. A tapeworm differs from an ordinary worm in the compound nature of its body. Each "joint" or proglottis is a complete being having a set of generative organs. The following particulars may serve as a succinct account of the annelida or true worm. Two classes are included in the Arthropoda: Class 1 (Gephyrea).—In this class are included the various species of spoon worm (Sipunculoidea), small worm-like forms, which inhabit the sand of our coasts or seek protection in the cast-off shells of certain mollusca. They exhibit the essential annulose characteristics, the body being segmented, and the nervous system consisting of the typical ventral gangliated cord. Lateral appendages are wanting, as also are eyes and other organs of sense. A proboscis bearing the mouth, and surrounded by tentacles, is situated anteriorly, the posterior part of the body being comparatively thick and muscular. Class 2 (Annelida).—This class is as extensive as the preceding is limited. It includes the various kinds of worms. The body in general is distinctly segmented, each zone or segment being furnished with locomotive appendages. A detached segment of the body of a typical annelid consists of two halves or arcs, named from their position, the "dorsal" and "ventral" arcs. From the sides of each certain processes termed "parapodia" or "foot tubercles" arise, and of these, four exist to each segment, two borne by each arc of the segment. The tubercles on the dorsal arc are termed, from their position, "notopodia"; those of the ventral half, from their proximity to the nervous system, are known as "neuropodia." The terms "dorsal oar" and "ventral oar" are sometimes used synonymously with the above. Each "oar" or "parapodium" bears two distinct kinds of appendages: (1) bristles or "setæ," which form the bulk of the organ: (2) a soft tentacular filament, to which the name of "cirrhus" is applied. These organs materially assist locomotion. The head is generally differentiated from the other segments, and in many cases is furnished with eyes, antennæ and similar organs. The digestive system includes a mouth — provided, in some instances, with a series of jaws — a stomach, and intestine. The respiratory organs consist of skin-sacs or pouches, or of branchiæ or gills; while in the lower forms breathing is performed by the general surface of the body. The nervous system consists of the typical gangliated chain, the anterior ganglia showing a tendency to coalesce together, so as to form a rudimentary "cerebral" mass or brain.

Worms, as a disease, frequently inhabit the intestinal canal in children, and often aggravate or even give rise to gastric and intestinal disorders, while the irritation which they produce is frequently extended to the spinal cord, giving rise to convulsions or other formidable nervous symptoms. Though intestinal worms are more frequent in early life than in adult, no species or them are peculiar to infancy.

Worms, a town of Germany, in Hesse-Darmstadt; three-quarters of a mile from the left bank of the Rhine, 40 miles S. S. E. of Mainz. It is irregularly built, and is still in part surrounded with its ancient walls. The principal edifice in the town is the venerable cathedral (founded in the 8th century, completed and consecrated in 1101). The interior is 357 feet long, 87 feet wide (across the transepts 117 feet), and is very imposing from its grand simplicity. On the N. side of the cathedral is the site of the Bischophof or episcopal palace,

the seat of the diet of April, 1521. Outside the town stands the Liebfrauenkirche (dating from the 15th century). The finest monument in Worms is that to Luther, erected in 1868 at a cost of $85,000. Worms is one of the most historical towns of Germany. It was known to the Romans as Borbetomagus, and later as Augusta Vangionum, the capital of the Vangiones. It was destroyed by Attila and rebuilt by Chlodwig in 486. After the partition of the empire among the sons of Ludwig the Pious, Worms became a German free town under the protection of the Elector of the Palatinate. Already in 1255 it belonged to the Confederation of Rhenish towns, and it contained in the time of Friedrich Barbarossa 70,000 inhabitants. It was the seat of many Imperial Diets, most famous that under Karl V., which Luther made memorable to the world. In 1689 the town was ruthlessly destroyed by Melac and the young Duc de Crequi under the orders of Louis XIV. In September, 1792, part of it was levelled by the French and at the peace of Luneville in 1801 it was given to France. The peace of Paris in 1814 gave it back to Germany, and the Vienna Congress in 1815 to Hesse-Darmstadt.

Wormwood, in botany, the genus Artemisia. The stem is one to three feet high, grooved, and angled; the leaves silky on both sides, twice or thrice pinnatified, dotted; the yellow flowers in racemes, the heads drooping, silky, the outer flowers fertile. It is wild in North America in various waste places, also in Continental Europe, the North of Africa and Great Britain.

Worship, a title or honor, used in addresses to certain magistrates, and others; the act of paying divine honors to the Supreme Being, or the reverence or homage paid to Him in religious exercises, consisting in adoration, confession, prayer, thanksgiving, and the like. The homage paid to idols or false gods by pagans; idolatry of inferiors. Obsequious or submissive respect; unbounded admiration; as hero worship.

Worsted, a variety of woolen yarn or thread, spun from long-staple wool which has been combed, and which in the spinning is twisted harder than ordinary. It is knit or woven into stockings, carpets, etc. The name is derived from Worsted, a village in England, where it is supposed to have been first manufactured.

Wort, in chemistry, the saccharine extract obtained from malt, barley, and other grain, by mashing with water. It is a complex mixture of saccharine bodies, some existing in the grain and others formed in the process of brewing. It varies in quality.

WORMWOOD.

Worth, Charles, a French dressmaker; born in Bourne, Lincolnshire, England, in 1825. In 1846 he went to Paris, and started an establishment for the making of fashionable costumes. He was eminently successful as a designer of fashions, and his establishment became the leading emporium of fashion for Europe and the United States, employing 1,200 persons. Died in Paris, March 11, 1895.

Worth, William Jenkins, an American military officer; born in Hudson, Columbia co., N. Y., March 1, 1794. He received but a scanty

education, and on the breaking out of the War of 1812, he entered the army as a private soldier. He was appointed 2d lieutenant of infantry in 1813, was aide-de-camp to General Lewis the same year, and General Scott in 1814; and the same year received the brevets of captain and major for gallant conduct at the battle of Chippewa, July 5, and at that of Lundy's Lane, July 25, at which latter he was severely wounded. He was promoted major in 1832, and colonel in 1838. In 1841, he assumed the command of the Florida war, which he brought to a successful termination after several severe conflicts. At the outbreak of the Mexican War, he joined the command of General Taylor, and distinguished himself at the storming of Monterey. At the close of the war he was placed in command of the Southwest. He died in San Antonio, Tex., May 17, 1849. A monument was erected to his memory by the city of New York, where his remains are interred.

Worth, William Scott, an American military officer; born in Albany, N. Y., Jan. 6, 1840; joined the Union army in 1861; was promoted 1st lieutenant June 7, 1861; captain, Jan. 14, 1866; lieutenant-colonel of the 13th Infantry, Nov. 26, 1894; and colonel in September, 1898. He accompanied the army to Cuba, and during the assault on San Juan Hill, July 1, 1898, was severely wounded. He was promoted Brigadier-General, U. S. A., Nov. 2, 1898. He died at Clifton, Staten Island, N. Y., Oct., 1904.

Worthington, Henry Rossiter, an American inventor; born in New York city, Dec. 17, 1817; early engaged in mercantile business with his father; but in 1840 began a series of experiments with steam for the propulsion of canal boats. Soon afterward he devised a small steam pump to be used in the maintenance of the water supply in the engine boiler, and in 1841 patented an independent feed pump which developed into the direct-acting steam pump that he patented in 1849. Subsequently he built in Savannah, Ga., the first direct-acting compound engine ever used in waterworks; erected a large plant for the manufacture of pumping machinery; invented the duplex pump, and devised various improvements in steam and hydraulic machinery. He died in Tarrytown, N. Y., Dec. 17, 1880.

Wound, a cut; a stab; a laceration; a breach of the skin and flesh of an animal, or of the bark and wood of a tree, or of the bark and substance of other plants, caused by violence or external force; injury; hurt. Injury; detriment; damage; as, a wound given to one's reputation.

In surgery, a solution of the continuity of a soft part of the body, effected by some external agent, and attended with a greater or less amount of bleeding. Wounds are of various kinds, and are generally distinguished as incised, lacerated, contused, and punctured. An incised wound is a simple division of the fibers made by a sharp cutting instrument. A lacerated wound is one in which the fibers, in place of being cleanly divided by a sharp instrument, are torn asunder by violence, the edges of the wound being in this case jagged and uneven. A contused wound is one made by a violent blow by some blunt instrument, the part being bruised as well as torn. A punctured wound is one made with a narrow pointed instrument. Wounds are dangerous, according to the extent of soft parts which they involve, the parts they occur in, and the state of health of the individual.

Wrack, a general term for the larger kinds of seaweed cast ashore by the waves, and applied in a special sense to the species of Fucus, which form the bulk of the wrack collected for manure, and formerly for making kelp. Most of the species are confined to the N. seas, and many grow in situations where they are more or less exposed at low water. The genus is distinguished by having flat or compressed forked fronds; air vessels when present formed by the occasional swelling of the branches, or in their substance; and receptacles filled with mucus, traversed by a network of jointed filaments. Oxen, sheep, and deer sometimes browse on wrack when other food is scarce.

Wrangel Land, an island in the Arctic Ocean; lying N. of the E. extremity of the Asiatic coast, and inter-

sected by the meridian of lon. 180° E. It was seen by the Englishman Kellett in 1849, and again discovered by the American Long in 1867, and named after the Russian explorer Wrangel (1796–1870), who sought in vain to reach it in 1821–1823. It was first explored by the American expedition under Hooper and Berry in 1881. There seem to be other islands beyond it.

Wren, a genus of birds, having a slender, slightly curved, and pointed bill; the wings very short and rounded; the tail short, and carried erect; the legs slender, and rather long. Their plumage is generally dull. They are abundant in the neotropical region, less common in the nearctic,

WREN AND NEST.

palæarctic, and parts of the Oriental regions. They live on or near the ground, seeking for insects and worms among low brushes, and in other similar situations. The common or European wren is found in all parts of Europe, and in Morocco and Algeria, and in Asia Minor and Northern Persia. The common wren is more abundant in the N. than in the central and S. parts of Europe. It frequents gardens, hedges, and thickets. Its flight is not long sustained; it merely flits from bush to bush, or from one stone to another, with very rapid motion of the wings. It sometimes ascends trees, nearly in the manner of creepers.

The North American species of wren are numerous; but many of them are ranked under different genera. The house wren is larger than the European wren, being about five inches long. It is abundant in the E. parts of the United States. It is less shy than the European wren, and often builds its nest near houses, and in boxes prepared for it. The nests are made to fill the boxes; and to effect this a large mass of heterogeneous materials is sometimes collected. The song of the house wren is very sweet. The male is a very bold, pugnacious bird, readily attacking birds far larger than itself, as the bluebird and swallows, and taking possession of the boxes which they have appropriated for their nests. It even attacks cats when they approach its nest. The winter wren is so similar to the European wren that it is not easy to state a specific difference. It is common throughout North America, from Labrador to Louisiana, and partially migratory. Several other species, common in North America, all agree very nearly in their habits with the common wren.

Wren, Sir Christopher, an English architect; born in East Knoyle, Wiltshire, England, Oct. 20, 1632; was educated at Wadham College, Oxford; became a fellow of All Souls in 1653; was appointed Professor of Astronomy at Gresham College in 1657, and three years afterward was elected Savilian Professor of Astronomy at Oxford. He had been appointed by Charles II. to restore old St. Paul's, but after the great fire (1666) it became necessary to rebuild the cathedral. It was begun in 1675, and the architect saw the last stone laid by his son 35 years afterward. Among the other notable buildings which Wren designed are: The modern part of the palace at Hampton Court, the library of Trinity College, Cambridge, the hospitals of Chelsea and Greenwich, the churches of St. Stephen's, Walbrook; St. Mary-le-bow; St. Michael, Cornhill; St. Bride, Fleet street; as also the campanile of Christ Church, Oxford. In 1680 was chosen president of the Royal Society. From 1685 to 1700 represented various boroughs in Parliament. He died in Hampton Court, Feb. 25, 1723.

Wrestling, one of the most ancient forms of athletic exercise, and at one time the favorite pastime of the Greeks, especially during that period when Greece in civilization, military knowledge, and in the cultivation of arts and sciences stood head and shoulders above all other States of the civilized world. The Olympic Games, the great festival of the Greeks, which were instituted for the exhibition of various trials of strength and skill, included races on foot, and with horses and chariots, contests in leaping, throwing, boxing, and wrestling. In the games described by Homer valuable prizes were offered, but after the 7th Olympiad a single garland of leaves of the wild olive was substituted at Olympia as the only meed of victory. One of the great objects of the old classical wrestlers was to make every attack with elegance and grace under certain laws of a most intricate nature, and the game is described by Plutarch as the hardest working form of athletics.

Wright, Carroll Davidson, an American statistician; born in Dunbarton, N. H., July 25, 1840. After distinguished service in the Civil War, he was a member of the Massachusetts Legislature in 1871–1872; afterward chief of the State Bureau of Statistics, lecturer at Harvard University, United States Commissioner of Labor from 1885, and completed the 11th United States census; was Honorary Professor of Social Economics in the Catholic University of America; Professor of Statistics and Social Economics, Columbian University; and president of Clark College (Mass.) from 1902 till his death in 1909.

Wright, Elizur, an American insurance expert; born in South Canaan, Conn., Feb. 12, 1804. He was graduated at Yale in 1826; taught school, and was Professor of Mathematics in Western Reserve College in 1829–1833. He was identified with the Anti-Slavery movement in 1833; was editor of the newspapers "The Emancipator," and "Human Rights," and the quarterly "Anti-Slavery Magazine." He published several works on life insurance, and was insurance commissioner of Massachusetts. He wrote an introduction to Whittier's poems in 1844. Died in Medford, Mass., Nov. 21, 1885.

Wright, George Frederick, an American geologist; born in Whitelaw, N. Y., Jan. 22, 1838. He was a Congregational clergyman (1862–1872), and Professor of Harmony of Science and Revelation in Oberlin College. He was editor of the "Bibliotheca Sacra" after 1884.

Wright, Henrietta Christian, an American writer for the young. Her works include the "Golden Fairy Series," "Children's Stories of the Great Scientists," etc. Died in 1899.

Wright, Mrs. Julia (McNair), an American writer; born in Oswego, N. Y., May 1, 1840. Her books are anti-Catholic in tone, and include: "Priest and Nun," "Tales for the New Century," "The Heir of Athole," and other similar works. Died in 1903.

Wright, Luke E., diplomat; born at Memphis, Tenn., in 1847. He became a lawyer; Attorney-Gen. of Tenn., 1880-88; member of the Philippine Commission, 1900; Governor-Gen. of the Philippines, 1905; Ambassador to Japan, 1906-1907; Secretary of War, 1908-1909. He married a daughter of Admiral Semmes of the Confederate navy.

Wright, Mrs. Mabel (Osgood), an American writer on nature; born in New York, in 1859.

Wright, Wilbur, an American aeronaut, born near Millville, Indiana, April 16, 1867. Both he and his brother, Orville, became interested as children in flying machines, but they did not begin serious work on a heavier-than-air machine until 1901. They had an experiment station at Kitty Hawk, North Carolina, and there a successful test flight, of a few seconds, was made in 1903. In spite of ridicule and many discouragements, the brothers worked on, keeping their plans and hopes to themselves. They deprecated exhibitions, attended by risk, especially Wilbur, the elder of the two, a quiet, reserved man whose very diffidence aroused interest and piqued curiosity. In 1905 Orville made a successful long-distance flight near Dayton, Ohio, the home of the brothers, and since then he has made many flights in the United States and abroad.

On October 6, 1908, in France,

Wilbur Wright made the first flight of more than one hour, with a passenger. It was abroad, and especially in France, that he first gained recognition. He patented the now famous Wright biplane in many foreign countries, as well as in the United States, and sold the United States government a machine for $30,000. Both he and his brother were awarded gold medals by the French Academy of Sciences in 1909. Toward the close of his life, Wilbur devoted much of his time to instructing others in the science and art of aviation—always cautioning them to avoid unnecessary risks—and in perfecting the Wright biplane. He died of typhoid fever, after a short illness, at Dayton, Ohio, on May 30, 1912. See AERONAUTICS.

Wright, William Burnet, an American clergyman; born in Cincinnati, O., April 15, 1836; was graduated at Dartmouth College, pastor of Presbyterian churches in Chicago, Boston, and Buffalo.

Writers' Cramp (sometimes called Scriveners' Palsy), a condition which occasionally follows the overstraining of groups of muscles, and is met with among those who are engaged in occupations which require the exercise of particular voluntary muscles of the upper and lower extremities of an excessive degree; as editors, clerks, telegraphers, dancers, etc. Writers' cramp is more rare among those who write and meanwhile compose, than among clerks and copyists; and the condition is, therefore, the result of an over-developed automatism.

Writing, the act or art of forming letters and characters on paper, wood, stone, etc., for the purpose of recording the ideas which the characters and words express, or of communicating them to others by visible signs. Anything written or expressed in letters; a book; a manuscript; any written composition; a pamphlet; an inscription.

Wurtemberg, or **Wurttemberg,** a kingdom of the German empire; pop. (1900) 2,300,000. Except a few tracts in the S., the surface is hilly and even mountainous. In the W., the Schwarzwald, or Black Forest, forms part of the boundary, and the Alb or Rauhe Alp, forming part of the Franconian Jura, covers an extensive tract. The country belongs in large part to the basin of the Rhine, being drained N. into that river by the Neckar, while the Danube flows across the S. districts. A part of the Lake of Constance is also included in Wurtemberg. The climate is decidedly temperate. About a third of the country is under forests, which consist chiefly of oaks, beeches, and pine. Of minerals, by far the most valuable are iron and salt, both of which are worked by the government. The government is an hereditary constitutional monarchy, the executive power being lodged in the sovereign, and the legislative jointly in the sovereign and a Parliament, composed of an upper and lower chamber. The latter, which is elected every six years, is composed of 93 members. In the Bundesrath Wurtemberg is represented by four members, and in the Reichstag by 17. There is no exclusively established religion, but the king is invested by the constitution with the supreme direction and guardianship of the Evangelical Protestant Church. Education is generally diffused; the center of the educational system is the University of Tubingen. The history of the state is of little general interest.

Wu Ting-Fang, a Chinese diplomatist; born in Hsin-hui, district of Kwangtung, China; studied Chinese literature and classics together with English in Canton, and took a law course in England in 1874–1877. On his return to China he directed the construction of the first railroad in his native land; was the first secretary of the Chinese commission to negotiate with Japan in 1895; and was afterward a plenipotentiary to ratify the treaty. He was envoy extraordinary and minister plenipotentiary to the United States, Peru, and Spain in 1897–1902; to the United States alone in 1907–1909; then chief of Chinese representatives at the Hague Court of Arbitration. He made himself very popular while in the United States, and received the degree of LL. D. from several colleges.

Wyandotte (in Canada called Huron), an Indian tribe in North America belonging to the Iroquis fam-

ily. In the beginning of the 17th century they were settled on the E. shore of Lake Huron, but in a tribal war (1636) they were nearly exterminated. Part of the dispersed tribe settled at Ancienne Lorette in Lower Canada, where their descendants still remain. Only a small number are now settled on Indian reservations in the United States.

Wyandotte Cave, in Indiana, excels the Mammoth Cave in the number and variety of its stalagmites and stalactites, and also in some of its chambers, one being 350 feet long and 245 feet wide, containing a hill 175 feet high. This stupendous work of nature abounds in long avenues, pillared palaces; Monument Mountain, rising 175 feet high, while 75 feet above its crest stretches away the Grand Dome; the Pillar of the Constitution, an immense stalagmite, 75 feet in circumference and 30 feet high, which is without a parallel in the world. The cave has been explored for 23 miles, and there are many passages which have never been traversed.

Wyant, Alexander H., an American landscape painter; born in Port Washington, O., Jan. 11, 1836. His studies of autumn effects in American forests, and views of nature in the Adirondacks and along the Ohio river, made his fame more than continental. Died in New York city, Nov. 29, 1892.

Wyatt, Sir Thomas, an English courtier and poet; born in Allington Castle, Kent, England, in 1503; son of Sir Henry Wyatt, who stood high in favor with Henry VII., and later with his son. In 1515 he was entered at St. John's College, Cambridge, where he took his degrees of Bachelor and Master of Arts. In 1536 he was knighted and the next year he was made high sheriff of Kent. In 1541 he was rewarded with a grant of lands at Lambeth, and the year after he was named high steward of the king's manor at Maidstone. Among the accomplishments of Wyatt was that of verse, which he seems to have begun to cultivate early, and continued through life to practise. During his life he had acquired considerable reputation as a poet; and in 1557 his poems, with those of Surrey, were published. He died in Sherborne, Oct. 11, 1542.

Wyatt, Sir Thomas, surnamed The Younger (to distinguish him from the preceding, of whom he was the only son), an English soldier; born about 1520. After a wild and riotous youth, he raised a body of men at his own expense, and did good service at the siege of Landrecies (1544), and he continued in honorable service on the Continent till 1550. In 1554, when the Spanish match was in agitation, Wyatt, in coöperation with Lady Jane Grey's father, led the Kentish men to Southwark, after gaining considerable success over the royalists; but failing to capture Ludgate, he became separated from the main body of his followers, was taken prisoner, and soon after executed in London, April 11, 1554.

Wyclif, Wickliffe, or **Wiclif,** (the name is spelled in several ways), **John,** an English reformer; born in the village of Ipreswel (later Hipswell), Yorkshire, England, between 1315 and 1320. Of his childhood and youth no account has been preserved. He certainly had a remarkable university career; but all details are wanting till 1356, when we find him seneschal of Merton College. In 1361 he was master or warden of Balliol, and though in May of the same year he was appointed rector of Fillingham in Lincoln, the university continued for a long time the main seat of his activity. About four years later, Simon Islip, Archbishop of Canterbury, appointed him warden of the new foundation of Canterbury Hall, but after he began to denounce the errors of Romanism, and the conduct of the monks, he was expelled by order of the Pope in 1370.

Meanwhile he had become Professor of Theology. In 1374 he was one of the commissioners sent to Bruges to arrange a concordat, and about the same time he received from the king himself (Edward III.) the rectory of Lutterworth in Leicestershire. Summoned before the Convocation in 1377, he was saved from all danger by the high-handed protection of the Duke of Lancaster and his friends, who made their way into the assembly and rendered all judicial proceedings impossible; and though in the following year a formidable process was instituted against him by direct command of

Gregory XI., the papal commissioners were induced by the intercession of the Princess Joanna and the evident sympathy of the citizens to do no more than forbid him further to disseminate his obnoxious doctrines. But in the course of the following years he grew more and more estranged from the catholic creed, and his endeavors to propagate his opinions were of wider scope than before.

In 1378 the election first of Urban VI. and then of Clement VIII. produced a schism in the Church; each Pope condemned his rival as antipope, and Wyclif declared that they were both right, and that the papacy was Antichrist. His views were accepted by numerous disciples, and disseminated by preachers through the length and breadth of the land. The ecclesiastical authorities endeavored to suppress the movement by fair means and foul; but though many of its leaders were silenced, the great originator of the whole continued to the end boldly to bear witness to the truth.

The importance of his life work may be read in the religious history of Europe during the 15th and 16th centuries. In England the Lollards, as his followers were called, were driven gradually into the background, but their doctrines were taken up on the Continent by Huss, and continued potent in many ways till they were absorbed in the larger wave of the great Reformation. Wyclif's greatest contribution to English literature was his translation of the whole Bible from the Latin into English, which is as remarkable in point of language as the later version of Tyndale. Wyclif died at Lutterworth, Dec. 31, 1384.

Wyman, Robert Harris, an American naval officer; born in Portsmouth, N. H., July 12, 1822; entered the navy in 1837; was acting master on the frigate "Brandywine" in 1843–1846; and, attached to the Gulf Squadron during the Mexican War, took part in the siege and capture of Vera Cruz and the expeditions that captured Tuspan and Tampico. He was at the naval observatory in Washington. In the Civil War he commanded the "Yankee" and "Pawnee" and the Potomac flotilla in 1861; and the "Wachusett" on the Potomac and the "Santiago de Cuba" on blockading duty in 1862–1864. He became captain in 1866, commodore in 1872, and rear-admiral in 1878; was commander-in-chief of the North Atlantic Station in 1879–1882; and was selected chairman of the Lighthouse Board June 5, 1882. He died in Washington, D. C., Dec. 2, 1882.

Wyman, Walter, an American surgeon; born in St. Louis, Mo., Aug. 17, 1848; was graduated at Amherst College in 1870, and at the St. Louis Medical College in 1873; was made assistant surgeon in the United States Hospital Service in 1876, and became chief medical purveyor of the quarantine division in 1888; was appointed supervising surgeon-general of the United States Marine Hospital Service in 1891. On his recommendation the government set apart a large tract of land in New Mexico for a hospital whence all consumptive patients in the United States marine hospitals could be transferred.

Wynne, Mrs. Madelene (Yale), an American artist and story-writer; born in Newport, N. Y., Sept. 25, 1847; the daughter of Linus Yale, inventor of the Yale lock.

Wyoming, a State in the Western Division of the North American Union; admitted to the Union July 10, 1890; State capital, Cheyenne; number of counties, 13; area, 97,575 square miles; pop. (1910) 145,965.

The surface of the State is very rugged, being diversified by mountains, valleys, plains, and plateaus, the latter covered with grasses of great nutrition and furnishing admirable pasture for live stock. The main range of the Rocky Mountains enters the State from the S. terminating in the Wind River Mountains, with an altitude of from 10,000 to 14,000 feet, and snow capped the entire year. The Shoshone Mountains extend N. of the Wind River range. Running S. from the N. boundary to the center of the State are the Big Horn Mountains. Other notable ranges are the Sweetwater, Rattle Snake, Medicine Bow, and Sierra Madre. The highest peak is Fremont's Peak, in the Wind River range, 13,790 feet. None of the streams are navigable in a commercial sense, but they furnish water for the irrigation and development of the sur-

rounding country, and in some instances are used for the transportation of timber. There are several important lakes, including Yellowstone Lake in Yellowstone Park, the N. W. corner of the State; Jackson's; Shoshone; Lewis; Madison, and others.

The mineral productions are quite extensive, including copper, gold and silver, coal, iron, oil, soda, and building stones. The oil belt extends entirely across the State from S. W. to N. E. Natural gas is said to exist at various points adjacent to the explored oil belt. In 1900 the principal products were coal, gold, silver, coke, petroleum, granite, sandstone, limestone, and clay products.

The soil of the mountains and high plateaus is a light sandy loam; darker and richer in the valleys, slightly alkaline, but, under irrigation, producing large crops. It is estimated that 10,000,000 acres of the State are suitable for agricultural purposes by irrigation.

In 1900 there were reported 380 manufacturing establishments, employing $2,440,958 in capital, and 2,250 persons, and having an annual output valued at $4,324,752.

At the end of the school year 1899–1900 the children of school age numbered 19,740; the enrollment in public schools, 14,512; and average daily attendance, 10,160. There were 524 public school buildings, public school property valued at $453,607, and 570 teachers. For higher education there were 6 public high schools, 2 private secondary schools, and the University of Wyoming, at Laramie.

The strongest denominations in the State are the Roman Catholic; Methodist Episcopal; Lutheran, General Council; Protestant Episcopal; Presbyterian; Congregational; Regular Baptist, and Mormon.

The total debt, on Feb. 1, 1901, was $320,000, all bonded; divided as follows: Capitol Building bonds, $150,000; Insane Asylum bonds, $30,000; Public Building bonds, $90,000; and University Building bonds, $50,000, now being paid off at the rate of $20,000 per annum. The assessed valuation of all taxable property in 1901 was $39,581,216, and the State tax rate, $6 per $1,000.

The State officers are elected for a term of four years. The governor's salary is $2,500 per annum; other officers, $2,000. Legislative sessions are held biennially in odd years, beginning on the second Tuesday in January, and are limited in length to 40 days each. The Legislature has 23 members in the Senate and 50 in the House, each of whom receives $5 per day and mileage. There is one representative in Congress.

The greater part of the area of Wyoming was included in that of the Louisiana Purchase of 1802, though the W. section formed part of the Oregon settlement. It was organized as a Territory July 25, 1868, from what was then the S. W. portion of Dakota, the N. E. part of Utah, and from the E. part of Idaho, to which the name of Wyoming was given. This Territory was admitted to the Union as a State July 10, 1890. The oldest white settlement within its confines was Fort Laramie, on Platte river, which was made a fur trading post in 1834, rebuilt by the American Fur Company in 1836, sold by them to the United States and garrisoned as a fort in 1849. It was long an important base of operations against the Indians, though it is now abandoned. Settlement took place very slowly till recently, the Indians occupying the more fertile districts. As the latter were removed, settlement became more rapid. The N. W. corner of the State, remarkable for its natural beauties and wonders, has been set aside as the Yellowstone National Park.

Serious trouble has been caused during past years in Wyoming by the State game laws, to which the Indians are naturally unable to reconcile themselves. In the latter part of October and the beginning of November, 1903, severe fighting took place between the whites and Indians who had been killing game, in which several whites were killed.

Wyoming, University of, a co-educational, non-sectarian institution in Laramie, Wyo.; founded in 1887.

Wyoming Valley, a valley in Luzerne co., Pa., famous as the scene of a massacre following a battle of Tory and Indian invaders, on one side, and the American settlers on the other.

July 3, 1778. The American force was weak, nearly all the fighting men being away in the Continental army, and more than half of it was killed. The survivors took refuge in Forty Fort, where most of the families of the valley had gathered. The Tories, under Colonel Butler, offered unexpectedly easy terms of surrender, and the settlers went back to their homes, while the invaders were supposed to be leaving the valley. Against the commands of their white leaders the Indians remained, and, on the night of July 4, began massacring the inhabitants and burning the houses. All who could escape made their way into the Wilkesbarre Mountains and the swampy land beyond, where many of the women and children died. When peace was established and the Indians came under control, the surviving settlers returned. They were confirmed in the possession of the valley in 1787.

Wythe, George, a signer of the Declaration of Independence; born in Elizabeth City, Va., in 1726; was educated at William and Mary College; studied law and became eminent in that profession; was chosen to the Virginia House of Burgesses in which he became a leader. He was author of a paper remonstrating against the Stamp Act, which was adopted after being modified. In 1775 he was sent to the Continental Congress and affixed his name to the Declaration of Independence on July 4, 1776, as a representative of Virginia. He was made speaker of the Virginia House of Delegates in 1777, and the same year became a judge in the Court of Chancery of Virginia. He was Professor of Law at William and Mary College in 1779–1789, and a delegate to the Constitutional Convention of 1786. He died in Richmond, Va., June 8, 1806.

X, the 24th letter of the English alphabet. It is superfluous, as it represents no sound which cannot be expressed by other letters. Thus, when used at the beginning of a word it has precisely the sound of **z**; when occurring in the middle of a word it usually has the sound of **ks**, as in axis, taxes, foxes, etc.; it also has the same sound in some cases when terminating a word, as lax, wax, etc.; when it terminates a syllable, and more especially an initial syllable, if the syllable following it is open or accented, it frequently has the sound of **gz**, as in exhaust, exalt, exotic, etc. As an initial it occurs only in words of Greek origin.

Xanthochroi, fair whites; the name applied by Huxley to a population, in early times extending from Western and Central Asia into Eastern and Central Europe, and distinguished by yellow or red hair, blue eyes and fair complexion. The farthermost limit of the Xanthochroi N. is Iceland and the British Isles; S. W. they are traceable at intervals throughout the Berber country, and end in the Canary Islands.

Xanthos, in classical legend, Achilles' horse. It is related in the "Iliad" that being chided by his master for leaving Patroclos on the field of battle, the horse turned his head reproachfully, and told Achilles that he also would soon be numbered with the dead, not from any fault of his horse, but by the decree of inexorable destiny.

Xanthos of Lydia, a Greek historian; living about the 6th century B. C., contemporary with Herodotus. He wrote a work called "Lydiaca," being a history of Lydia from heroic times down, and giving also a geographical description of the country; fragments of it have been preserved.

Xanthus, an ancient city of Asia Minor, in Lycia; on the Xanthus river; about 8 miles above its mouth.

Xantippe, wife of Socrates, and the typical female termagant or scold. She had probably some little acerbities of temper, and these must have been heightened by the peculiarities of her spouse, especially his indifference to the commonplace duty laid on the head of the house to make both ends meet. Socrates received her reproaches with such good humored indifference that we cannot wonder she sometimes resorted to other weapons beside her tongue; as on the occasion when she is said to have finished up a tirade by sousing the philosopher, though his remark, as he moved dripping from the scene, that when Xantippe thundered she watered, must have convinced her that here, too, she was powerless. Some authors have given Socrates a second wife, named Myrto.

Xantippus, a Lacedæmonian general; went to the support of the Carthaginians in 255 B. C.; and defeated the Romans under Regulus at Tunes (now Tunis). Notwithstanding his services, the Carthaginians ordered the captain of his ship to throw him into the sea.

Xavier, Francisco, a Spanish missionary and saint of the Roman Catholic Church, usually styled the Apostle of the Indies; born of a noble family, whose family seat of Xavier lay to the N. W. of Pampeluna, April 7, 1506. At the College of Sainte

Barbe, in Paris, he attained while still young some importance as a lecturer on philosophy; but a friendship which he formed with his fellow-countryman Loyola, turned his attention in a new direction, and he became one of the first members of the Society of Jesus. In the early part of 1540, before the society had received papal approbation, he was chosen for the mission to India, and received the title of apostolic nuncio from Paul III. The rest of his life was consecrated with high-souled devotion to the work of an evangelist. The last two years of his life were spent in Japan, and he was on his way to China when he fell ill with fever. He expired Dec. 2, 1552.

Xenocrates, a Greek writer and philosopher; born in Chalcedon, in 396 B. C.; removed in early youth to Athens, where he joined Plato. He was for some years scholarch, or rector, of the Academy. His writings were numerous. He died in Athens, in 314 B. C.

Xenophanes, a Greek writer and philosopher; born in Colophon about the third or fourth decade of the 6th century B. C. Exiled from his Ionian home, he established himself at Elea in Southern Italy. He died at the age of 92, in Elea.

Xenophon, a Greek historian and philosopher; born about 430 B. C. At an early age he became a pupil of Socrates, and is said to have been saved from death by that philosopher at the battle of Delium. About the age of 40 he joined the expedition of the younger Cyrus against his elder brother, Artaxerxes Mnemon, King of Persia. After the battle of Cunaxa, and the treacherous massacre of the Greek generals, Xenophon played an important part in the adventurous retreat known in history as the "Retreat of the Ten Thousand"; and it was his courage and conduct that contributed mainly to its success. He afterward settled at Scillus, a small town near Olympia, in Elis, under Spartan protection, where he lived upward of 20 years. At last he was driven from his retreat at Scillus by the Eleans, and took refuge in Corinth. He died after 357.

Xerxes I., King of Persia; the eldest son of Darius and his second wife, Atossa; was appointed successor by his father, in preference to Artabazanes, his eldest son by his first wife, whose children were born before Darius became king. Darius died in the beginning of the year 485 B. C., in the midst of his preparations for a third expedition against Greece. Xerxes after having subdued the rebellious Egyptians, and appointed his brother, Achæmenes, governor, gave his whole attention to the completion of the preparations begun by his father, which occupied nearly four years. Immense hordes of men were gathered together from all parts of the vast Persian empire; an enormous fleet was furnished by the Phœnicians and other maritime nations subject to Persia; stores of provisions sufficient to support the immense army were collected at different points along the intended route of march. A bridge of boats, an English mile in length, under superintendence of Egyptians and Phœnicians, was built across the Hellespont. The bridge, however, was destroyed by a storm. Another bridge, consisting of a double line of boats, was built, and a canal was cut through Mount Athos, at the point of the peninsula of Acte, in Macedonia, on which the fleet of Mardonius had been wrecked in 492 B. C. The preparations were completed in 481 B. C., and in the autumn of the year Xerxes arrived at Sardis, where he wintered.

The following spring the vast assemblage began to march toward the Hellespont. It took seven days and nights to march across the bridge. After crossing the Hellespont, the march was continued along the Thracian coast toward Doriscus, on the Hebrus, where a halt was made on a large plain, and the army numbered. The fleet drew up near to Doriscus. According to Herodotus, the whole number of fighting men, military and naval, amounted to nearly 2,500,000, and the fleet consisted of 1,200 ships of war, besides 3,000 smaller vessels. These numbers were considerably increased during the march between Doriscus and Thermopylæ. Herodotus supposed that the number of people assembled on this

occasion would be considerably over 6,000,000. This immense force moved on without resistance till it reached Thermopylæ, where it was brought to a stand by the army of Leonidas.

Though the Greeks were entirely defeated and slain, it was not without heavy loss to the Persians. On the same day, and on the third day after, the Persian fleet, which had previously suffered severely from a storm, was defeated with heavy loss by the Greeks off Cape Artemisium, in Eubœa. Xerxes continued his march on to Athens through Phosis, which he laid waste, and Bœotia, whose inhabitants joined him, with the exception of those of Platæa and Thespia, which cities he burned. A detachment which he sent to attack Delphi met with a signal defeat. When Xerxes arrived at Athens (in the summer of 480, three months after crossing the Hellespont) he found the city deserted, the Athenians having sent their families to Trœzen, Ægina, and Salamis, Athens was destroyed. Meantime the two fleets had sailed round from Eubœa, and taken up their positions in the narrow strait between Salamis and the Attic coast, where the famous naval battle of Salamis took place (September, 480 B. C.). Xerxes witnessed the fight from a lofty throne which he had caused to be erected on a slope of Mount Ægialeus. He was apparently confounded at the unexpected and inglorious result of all his mighty preparations to subdue Greece, and fled under the escort of 60,000 men. Little more is known of him, except that in 465 B. C. he was murdered.

Ximenes de Cisneros, Francisco, a Spanish cardinal and statesman; born in Tordelaguna, Castile, in 1436. He studied at the University of Salamanca. In 1455 he went to Rome, where he pleaded the cause of his countrymen in the consistorial courts with such success that he attracted the attention of the pontiff. He returned in 1461 with an expectative, which gave him a right to the first ecclesiastical preferment in a certain see that should fall vacant. A suitable office did fall vacant in 1473, but Carillo, Archbishop of Toledo, wished to fill it with a creature of his own. Ximenes refused to surrender his rights, whereupon the enraged prelate shut him up in prison for six years. Ximenes refused to yield, and at last attained his rights. He was appointed guardian of the convent of Salzeda, in 1492 chaplain to Queen Isabella, and in 1495 Archbishop of Toledo. On May 17, 1507, he was appointed cardinal, and when Ferdinand died in 1516 he ruled as regent for the young Carlos (afterward known as Karl V.) the whole of Spain. His regency lasted about two years. Then Carlos left the Netherlands for Spain. Almost his first act of sovereignty was the dismissal of the faithful regent. Ximenes was already on his deathbed, and it is doubtful if he ever knew of the act of the king. He died Nov. 8, 1517.

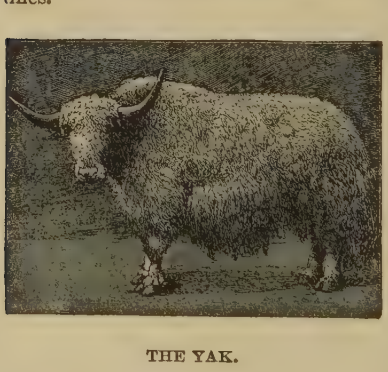
X Rays. See Roentgen Rays.

X. Y. Z. Correspondence, in United States history, the name given to the dispatches of the three commissioners to France, Marshall, Pinckney, and Gerry, containing the insulting demands made by Talleyrand and the other French Directors as the price of respect and courtesy to the American republic. In the otherwise complete copies published by Congress President Adams substituted X. Y. and Z. for the names of Talleyrand's emissaries. To the demands the United States representatives returned a decided refusal. It is said that Pinckney, in response, made use of the phrase, "Millions for defense, but not one cent for tribute."

Y

Y, the 25th letter of the English alphabet, in modern English, both a consonant and a vowel. It is taken from the Latin, into which language it was adopted from the Greek (v) or upsilon.

Yacht, a decked pleasure vessel; a light and elegantly fitted-up vessel, used either for racing or for pleasure trips, or as an official or state vessel to convey royal personages or government officials from place to place. The rigs are various, and many pleasure yachts now have steam power as an accessory, or for use during calms. Racing yachts are built with very fine lines.



THE YAK.

Yak, a species of ox from the mountainous regions of Tibet. There are two races: the wild yak, generally black, which is found near the snow line, descending into the valleys in winter, and a domesticated race of various colors, black and white being most common. The yak is about the size of the common ox, to which it has a general resemblance, but it is covered with a thick coat of long silky hair, hanging down like the fleece of a sheep, completely investing the tail, and forming a lengthy fringe along the shoulders, flanks, and thighs. This fringe, which exists in both races, was apparently developed as a protection to the animal, as the long hair forms a sort of mat which defends the body from the effects of the cold when the animal is reposing in the snow. The domesticated race is of great importance to the natives of Tibet. The yak is employed as a beast of burden, but never for tillage or draught; the milk is very rich and yields excellent butter; the flesh is of the finest quality, and that of the calves far superior to ordinary veal. The hair is spun into ropes, and made into coverings for tents, and the soft fur of the hump and withers is woven into a fine strong cloth. The tails, often dyed red, are made into the chowries or fly-flappers, used in India. Yaks are often seen in zoölogical gardens and menageries.

Yakima, or **Yakama**, a tribe of Indians first observed on the headwaters of the Cataract and Yakima rivers, Washington, in 1805. The name has lately been used to designate members of some other tribes having little or no connection with the Yakima proper. There now remain about 900 members of this tribe, located on a reservation in Washington.

Yakoman Indians, a family of North American Indians divided into four tribes; the Yaquina (Yakwina or Yakones), Alsea, Sinslaw, and Ku-

itc (also called the Lower Umpqua tribe).

Yakoub Beg, surnamed Khushbegi ("lord of the family"), and Atalik Ghazi ("victorious guardian"); ameer of Kashgar; born near Samarcand, Russian Turkestan, early in the 19th century. He originally appeared as chamberlain to Khudayar Khan, the Mohammedan conqueror of Khokand. He became successively a commander of 500 soldiers, governor of the Ak Musjid ("White Mosque"), on the Jaxartes, where in 1853 he stubbornly resisted the advance of the Russian general, Perovsky, and governor of Kurama. At this time he had the reputation of being a brave soldier, an orthodox Mohammedan, and a stern disciplinarian. But he first rose to great eminence after the recovery of Kashgar from the Chinese in 1864. In the course of three years he had firmly established his power. For 12 years this remarkable man conferred on a large part of Central Asia the benefits of a settled though rigorous government. In his foreign policy he was strongly anti-Russian, and ultimately friendly to Great Britain. In 1874 a commercial treaty was concluded between him and Sir Douglas Forsyth to develop intercourse between India and Kashgar. But in the spring of 1877 he was assassinated, though another account attributes his death to fever, and the fabric he had so laboriously raised fell to pieces almost immediately. The Chinese armies overran the country (1878), and Kashgar again came under Chinese rule.

Yakoub Khan, Ameer of Afghanistan; born in 1849; son of Shere Ali; was nominated heir to the throne of Kabul in 1864. In 1870 he was made governor of Kandahar, and afterward was sent to Herat, where his great influence excited the fears and suspicions of Shere Ali, who now declared his youngest son, Abdullah Jan, to be his heir. In 1873 Shere Ali recalled him from Herat, but he declined to return, and for a year was practically in revolt. At length, under the most sacred pledges of safety, he proceeded to Kabul, but was treacherously imprisoned, and was only released when the flight of his father before the victorious advance of the British arms in the war of 1878 made his presence indispensable to prevent anarchy in the capital and the State. On the death of Shere Ali he succeeded to the throne, and on May 30, 1879, concluded a treaty of peace with the British. He was deposed in 1880.

Yale, Elihu, an Anglo-American philanthropist; born in Boston, Mass., April 5, 1648; son of an English colonist. He went to England while very young and was there educated, never returning to America. About 1678 he went to the East Indies as a trader, and acquired great wealth. From 1687 to 1692 he was governor at Fort St. George, Madras. He gave to the Saybrook Collegiate School books and money valued at $4,000 a gift which resulted in the connection of his name with the college after its removal to New Haven. His full-length portrait hangs in Alumni Hall, Yale University. He died in London, July 8, 1721, and was buried at Wrexham, a town in North Wales.

Yale, Linus, an American inventor; born in Salisbury, N. Y., April 4, 1821; applied himself for a while to portrait painting, but in 1850 began to study mechanical problems. In 1851 he patented a safety lock, and thereafter till his death was a recognized authority on all matters pertaining to locks and safes. In the course of his work he became convinced of the necessity of abandoning the use of a keyhole as affording an easy means of introduction to the lock mechanism. This led to the adoption of the permanent dial and shaft as used in the combination locks, and subsequently to the perfection of what is known as the "clock" lock. His most notable invention was the double lock, which comprised two locks within a single case, and operated by the same or different combinations. He died in New York city, Dec. 24, 1868.

Yale University, an institution of higher learning in New Haven, Conn.; founded in Saybrook in October, 1701, as the Collegiate School of the colony under the trusteeship of 10 principal ministers. The classes were taught, however, at Killingworth, now Clinton, an adjoining town, till 1707.

The institution was permanently settled in New Haven in 1716, and in 1718 its name was changed to Yale College in honor of Elihu Yale. The name Yale College applied at first only to the new building. It was given formally to the institution in its charter of 1745. The chair of Divinity was added in 1755, and another of Mathematics, Physics, and Astronomy in 1771, though this was not permamently filled till 1794. Occasional grants were made to it by the legislature before the Revolution, and $30,000 was voted by the State in 1792. Schools of Medicine (1812), Theology (1822), and Law (1824) were established; and, as reorganized in 1871, the university possesses also departments of Philosophy and Arts, the latter including besides the classical course of "Yale College" proper, the Sheffield Scientific School, post-graduate courses, and a School of Fine Arts (1864).

In March, 1887, an act passed the General Assembly of the State authorizing the use of the title Yale University by the president and fellows of Yale College. The president is the presiding officer of the Board of Trustees and of every board of instruction. He has no required duties of teaching. There are four departments of instruction, viz.: Philosophy and the Arts, Theology, Medicine, and Law. Under the first-named department are included two separately organized sections, in which instruction for undergraduates is provided, viz.: the Academical Department and the Sheffield Scientific School; also the School of the Fine Arts, and the Department of Music, each with a special organization; and the courses for graduate instruction, under the combined faculty of the department.

The Library, the Peabody Museum of Natural History, and the Observatory are severally organized independently of the special departments, and are designed to contribute, in their appropriate spheres, to the instruction and advancement of the whole institution.

On Oct. 20–24, 1901, the university celebrated its bi-centennial with impressive ceremonies which were attended by many distinguished persons.

Yalu, Battle of the, a naval combat between the fleets of Japan and China, fought Sept. 17, 1894, in which the Japanese were completely victorious. The scene of the battle was in the Yellow Sea, near the mouth of the Yalu river. The Chinese resisted stubbornly (see Philo Norton McGiffen), but were out manœuvred and thoroughly beaten by the Japanese, five of the Chinese vessels being sunk or burned.

During the Russo-Japanese War, on May 1, 1904, the passage of a Japanese army of 50,000 men under Gen. Kuroli from Korea into Manchuria, across the Yalu River, was stubbornly resisted by a Russian army of 30,000 men under Gen. Sassulitch. The Russians were routed and driven back to Potietinsky with the loss of 28 guns, of 40 officers, and 2,000 killed and wounded, the Japanese loss in killed and wounded being 700.

Yamagata, Aritomo, a Japanese marquis and field-marshal; born in 1838. The son of a Samurai chieftain; he received a military education, and in 1868 took part in the suppression of the Shogunate. He became Minister of War in 1873, created a national army out of the feudal retainers, and in 1877 defeated Saigo (q. v.) and the Satsuma Rebellion. He commanded the successful Japanese forces in the Chinese War of 1894–95, and in the Russo-Japanese War of 1904; was president of the councils of war which formulated the plan of campaign.

Yancey, William Lowndes, an American statesman; born in Ogeechee Shoals, Ga., Aug. 10, 1814; went to Alabama in his youth, and there studied law and began to practice in Montgomery. For a while he was engaged in journalism, and afterward served in both branches of the Alabama legislature. He was a member of Congress in 1844–1847, and while there exerted a strong influence as a leader of the Pro-slavery party in the South. He reported the Alabama ordinance of secession to the convention in Montgomery, which was adopted in January, 1861. He entered the Confederate Congress early in 1862, and served till his death, near Montgomery, Ala., July 28, 1863. He was an earnest supporter of slavery.

Yangtze-Kiang, the river (or Kiang) YANGTZE; popularly known as the "Girdle of China"; uniting all the central provinces of that country. It lies between Tibet and Kohonor on the W. and the Pacific Ocean on the E., and, including its many windings, has an estimated length of 3,200 miles. If its many tributaries, their fertile valleys, and the vast population they support, be considered, the Yangtze-Kiang is the greatest of the world's great waterways.

YAM.
a, flower; *b*, root.

Yankee, an American-Indian corruption of the word English into Yenghees, first used in the sense of genuine American-made, by Jonathan Hastings, a farmer at Cambridge, N. Y. in 1713. The term spread as a popular name for the citizens of New England; is now applied by foreigners to all inhabitants of the United States.

Yankee Doodle, the name given to a famous tune, now regarded as the national air of the United States, or at least of the Northern portion, as "Dixie" is of the Southern. It was the martial air of the Union troops in the Civil War, and its notes are an inspiration to Americans wherever they may be.

Yankton College, a coeducational institution in Yankton, S. D.; founded in 1881 under the auspices of the Congregational Church.

Yaquis, the Indians who inhabit the S. part of the State of Sonora, Mexico, in the district of Guaymas. In the time of Cortez they numbered 300,000; but are now reduced to about 15,000, of whom not more than 5,000 are able-bodied men. The Yaquis have always been at war with the Spaniards and Mexicans, and while often defeated have never been conquered. They revolted against Spain in 1735 and in 1825, and against the Mexicans in 1832, each time being overcome. In 1841 they made another attempt and for years held the government at bay. Order was restored by a compromise. War broke out again, however, and from 1848 till 1897, when a treaty was concluded at Ortiz, scarcely a year passed without a conflict between the Mexican troops and the Indians. In the summer of 1899, the Yaquis again broke out and a fierce struggle ensued. They were well armed with Winchester rifles and fought desperately; but gained no permanent success. The Yaquis, according to those who know them best, are much superior in intelligence to other Indians. They are industrious, and during the building of the Southern Pacific railroad worked faithfully. They saved the money so earned and invested it in rifles and ammunition. From June to Dec., 1906, they committed a number of atrocities, killing defenceless miners and settlers.

Yard, in ordinary language, the American and British standard of measure, being equal to 3 feet or 36 inches. As a nautical term, a spar slung from a mast and serving to extend a sail.

Yarn, any textile fiber prepared for weaving into cloth. Cotton yarn is numbered according to the number of hanks contained in a pound of 7,000

grains. Each hank, or skein, measures 840 yards. Worsted yarn has 560 yards to the skein; woolen yarn has 1,600 yards to the skein or run. Linen yarn is wound upon reels, and made up into leas, hanks, and bundles. Flax and jute yarn is numbered according to the number of leas of 300 yards per pound.

Yarrow, Harry Crecy, an American physician; born in Philadelphia, Pa., Nov. 19, 1840; was graduated at the Medical Department of the University of Pennsylvania in 1861; served through the Civil War as surgeon of the 5th Pennsylvania Cavalry; was surgeon and naturalist in the expedition to explore the territory W. of the 100th meridian; and acting assistant surgeon of the United States army for 30 years.

Yates, Lorenzo Gordin, an American naturalist; born in England, Jan. 8, 1837; came to the United States in 1853; taught in Wisconsin; and later studied medicine and dentistry; served in the geological survey of California under Prof. J. D. Whitney; had charge of the scientific department of the Frœbel Institute, Los Angeles, Cal. He died in 1909.

Yates, Richard, an American lawyer; born in Warsaw, Ky., Jan. 18, 1818; was graduated at Illinois College, Jacksonville, in 1838; practised law a number of years; was elected to the legislature in 1842; and sent to Congress in 1850. In 1860 he was elected governor of Illinois. He was strongly opposed to slavery, and an ardent supporter of the government during the Civil War, taking an active part in the organization of volunteer regiments. He was United States Senator in 1865–1871, and afterward United States railroad commissioner. Died in St. Louis, Mo., Nov. 27, 1873.

Year, a unit of time, marked by the revolution of the earth in its orbit. The year is either astronomical or civil. The former is determined by astronomical observation, and is of different lengths, according to the point of the heavens to which the revolution is referred. The civil year is the year of the calendar. It contains a whole number of days, beginning always at midnight of some day. According to the present system, or according to the Gregorian calendar, every year the number of which is not divisible by 4, also every year which is divisible by 100, and not by 400, is a common year, and contains 365 days. All other years are called leap years, and contain 366. The ecclesiastical year is from Advent to Advent. A lunar year is a period consisting of 12 lunar months.

Yeast, the yellowish substance, having an acid reaction, produced during the vinous fermentation of saccharine fluids, rising to the surface, when the temperature of the fluid is high, in the form of a frothy, flocculent, viscid matter (surface yeast), and falling to the bottom (sediment yeast) when the temperature is low.

Yellow, one of the three primary colors; a bright golden color, the type of which may be found in the field buttercup, which is a pure yellow. Mixed with blue, yellow yields green, and with red it produces orange.

Yellow Bird, the American goldfinch, or thistle bird, generally distributed over North America. Also, Dendroica æstiva, common throughout the United States, and called the yellow-poll warbler and summer yellow bird.

Yellow-fever, popularly known as Yellow Jacket, a malignant febrile disease, indigenous chiefly to the West Indies, northern coasts of South America, the borders of the Gulf of Mexico, and the Southern United States. The first recorded outbreak occurred in the West Indies in 1647. It is attended with yellowness of the skin, of some shade between lemon-yellow and the deepest orange-yellow. The symptons may appear within one or two days after the poison has entered the person's body, or may not occur for six or ten. The attack is sudden, beginning with shivering, headache, pain in the back and limbs, with fever. It is most fatal from May to August; is very contagious, but a sufferer from one attack is nearly safe from a second; cold weather kills it. Until the year 1850, the Amazon River, dividing the Brazils from Guiana, limited the extension of yellow-fever S. of the line; and while the disease was raging at Rio and Bahia, at the

close of that epoch, the Montevideans flattered themselves that they were without the geographical limits of the pestilence, till it fell to their turn to sustain its visitation several years later, when the illusion was dispelled. Similar facts may be adduced regarding the extension of the disease along the shores of the Pacific; so that, however well we may be acquainted with its present range, making all due allowance for temperature, we cannot tell what the future may bring forth. In this connection it may be mentioned that a temperature of at least 72° is assumed to be essential to the development of yellow fever, though cases exceptional to this rule may now and then happen.

Yellow Hammer, or **Yellow Bunting,** a bird widely distributed over North America and Europe. It frequents hedges and low trees; it

YELLOW HAMMER.

nests on the ground, and the male assists in incubation. The song consists of few notes, but is sweet and pleasing.

Yellow Legs, a bird found in the Eastern States of North America. It has a rather long bill of greenish-black, and yellow legs. It lives among the grass and rushes on the edges of rivers or ponds, and feeds on shrimp, worms, and aquatic insects, both in salt and fresh water.

Yellow Pine, a North American tree. The wood is universally employed in the countries where it grows for domestic purposes, and is also extensively exported to Great Britain and elsewhere.

Yellows, a disease of cattle very similar to jaundice, and produced by congestion and inflammation of the liver.

Yellows, a disease to which the peach, especially in the Middle States, has long been subject. So far there has been no remedy found except that of grubbing and burning the affected trees.

Yellowstone National Park, a remarkable region in the extreme N. W. corner of Wyoming; set apart by Congress for a National reservation in 1872. Its area was originally 3,575 square miles, to which Congress in 1891 added a tract of nearly 2,000 square miles to the S. and E.— nearly all more than 6,000 feet above sea-level, and rising in the snow-covered mountains to 10,000 and 14,000 feet. Situated on the "Great Divide," its pine-clad mountains form the gathering ground for the headwaters of large rivers flowing away to the Atlantic and Pacific Oceans, and for the sake of the rainfall and the rivers its forests are carefully preserved.

The region is remarkable as well for its scenery as for its famous hot springs and geysers. There are three geyser basins located in the valley of the Fire Hole river, at an average altitude of 7,000 feet above the sea-level. They are the Upper, Middle, and Lower, and are from 10 to 15 miles apart, in their order. The Upper, or Great Geyser basin, is the most active. Here are located the great spouters, conspicuous among which are the Giant, Giantess, Bee Hive, Castle, Grand Cornet, Saw Mill, Lion and Cub, and last, but by no means least, Old Faithful. The tourist can rely as absolutely on Old Faithful giving an exhibition every hour and four minutes as he can on the rise of the sun at the time specified in the almanac. The stated intervals of her activity have not varied in the memory of the oldest habitue of the park. Other geysers are variable in the time of their action. In fact all of the others seem to be subject to changes. The Bee Hive is becoming more active every season. She gives an exhibition from two to three times every 24 hours. The Giant and Giantess and Castle can not always be counted on, but

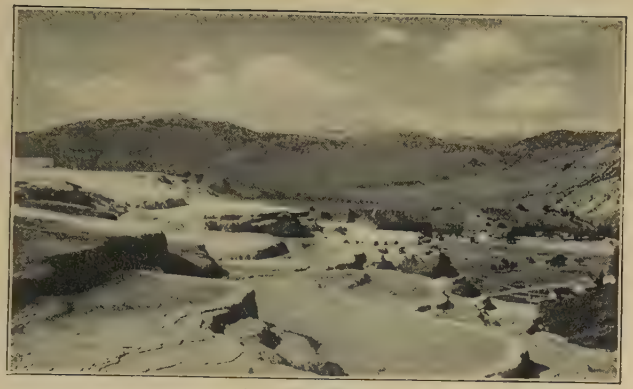
they are all worth watching, for they make a magnificent display when in action. The Giant averages an exhibition about every six days and the Giantess about every 11 days.

In the Middle Geyser basin there are no cone geysers, such as abound in the Upper basin. The great marvel of the Middle basin is called "Hell's Half-Acre." This is a steaming abyss on the bank of the Fire Hole, 25 or 30 feet in depth, in a limestone formation, which at irregular intervals of from four to five times per day, is distinguished by the intensity of its activity. Above the half acre is a boiling lake of cerulean-hued water, the overflow from which winds its way in wavelets over beautiful formations tinted in blue and gold and purple and other delicate dyes. On this ever-changing surface the pine-clad sides and snow-crowned mountains are mirrored in spectacular splendor. Across the river, and far up on the slope beyond, in a group of blasted cedars, is the "Devil's Paint Pot," a boiling caldron of many-colored clays, bubbling and steaming like a soap vat. These colors combine, by chemical action, with each other, presenting an ever-changing tint.

The mammoth hot springs are of a class with those in the geyser basin. The element of beauty enters into the formations from the deposits left by the water. These have been built up by ages of activity, and are in scalloped terraces. Their greatest activity is manifested at the base of Capitol Hill, on the picturesque bank of the Gardiner river. But there are unmistakable evidences of their activity for miles back. In walking over some of the terraces where the water has ceased to run, the formation sounds hollow underneath, the action of the elements having built the terraces at the expense of the limestone beds below the surface. Caverns have been found underneath the now inactive basins, which are resplendent with stalactite and stalagmite formations that glisten under the blaze of a torch with singular brilliancy. Ascending the terraces to their apex, one may look down into pools of water welling up from unknown depths, heated by mysterious agency, and flowing in wavelets over fantastic ledges of limestone formations from terrace to terrace, and finally sinking into an invisible channel, whence it finds its way into the Gardiner. Wire baskets, horseshoes and other metallic articles of ornamentation are most exquisitely enameled after hanging 20 or 30 hours exposed to the drippings of these springs. In the foreground of the formation resulting from the deposits left by the water is a mass of limestone towering 40 or 50 feet in the air, shaped like the cap of the Goddess of Liberty and bearing that title.

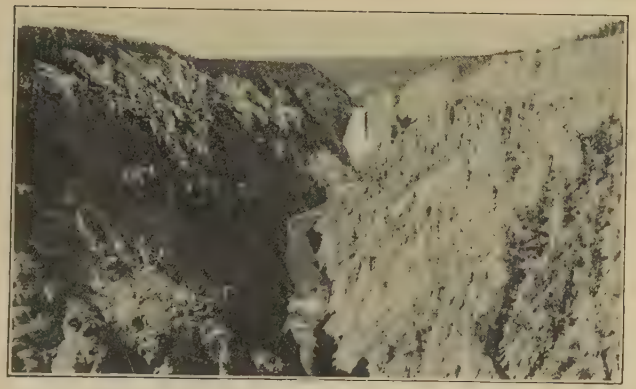
In going from the Mammoth Hot Springs to the Falls of the Yellowstone the tourist must abandon his wagon at Tower Falls, if he is so equipped, and pack his outfit for the trail. The distance for packing, however, is but 18 miles, if he only desires to go to the falls, but if the lake be one of his objective points he must prepare for 40 miles or more of packing trip by stocking up his larder and rolling in all of his robes, for these are the coldest points in the park, the altitude being 8,000 feet, with the exception of Mount Washburne. On this road to the Great Falls of the Yellowstone the principal point of interest is the Tower Falls, though the whole route is wild and picturesque. Tower Falls are so called because of a towering mass of stone which rises up from the verge of the precipice to a height of about 100 feet from the water, where it breaks over the ledge. These falls are noted for their simple beauty, falling in solid sheets for 150 feet, and sending showers of spray curling up from the foaming pool below.

The trail from Tower Falls brings the tourist to a standstill and abruptly on the brink of an awful abyss, as it leads directly to the Grand Canyon, into the dizzy depths of which one gazes for the first time with mingled emotions of awe and admiration. On the opposite side of the stream the walls of the canyon rise abruptly for more than 2,000 feet, while on this there is a gradual descent half way down of sliding cinnabar and other delicately tinted chalky formations, broken at intervals by tower-

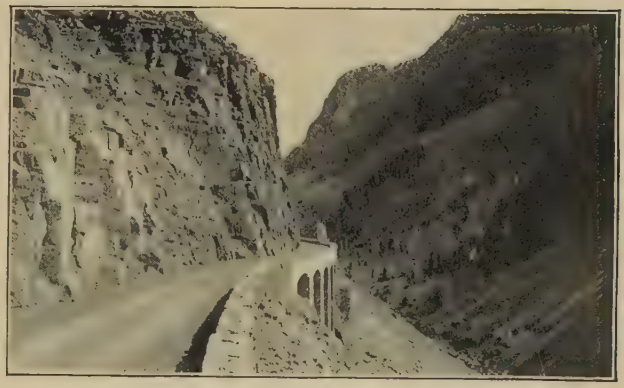


PULPIT TERRACE

GIANT GEYSER CRATER



GREAT FALLS AND GRAND CANYON



GOLDEN GATE CANYON AND VIADUCT

Courtesy N. P. R. Co.

YELLOWSTONE PARK

ing pinnacles of mineral rock, which stand out in bold relief against the brilliant background. These pinnacles take on many fantastic forms. From the base of these solemn sentinels, the descent to the water line is as abrupt as from surface to torrent on the opposite side. Far below winds the foaming current of white-crested wavelets spread out like a silvery band. Though the channel is 160 feet wide, it appears no larger than a trout stream. Rounding Point Lookout the tourist is confronted with a full view of the falls, where the whole volume of water breaks over a rock-ribbed ledge and is riven by a big black boulder in the center, and again united rolls down to a depth of 370 feet, sending up showers of spray which glisten in the sunlight. The spectacular splendors of the scene in the canyon below the falls is brightened by the effect of the roaring cataract on the senses. It is the most magnificent scenery of its class on the Continent, with the one exception of the Yosemite. Above the main falls is another, which alone would be a great attraction, but is dwarfed into insignificance by the lower and larger one below. Above this, still, is a series of cascades, over which the vast volume of water from the lakes above rushes and breaks into foam everlastingly. These rapids can be heard for miles of a still night, making much more noise than the roaring cataract at the falls. Here is the upper mouth of the canyon and the beginning of 10 miles of canyon scenery.

Six miles from the falls, on the road to the lake, is the Sulphur Mountain, an immense mound of pure sulphur crystal with a number of steaming springs at its base. The mountain seems to have been built up by deposits from these springs, and the formative processes are still at work on the adjacent plain. The overflow from the springs winds down the declivity toward the Yellowstone, leaving sulphuric deposits in its course. From Sulphur Mountain to the great lake the distance is 15 miles, and the trail winds along the picturesque bank of the Yellowstone. The river's source is not the lake, as many suppose; the lake might rather be called an expansion of the river, which is never narrower than about 120 feet, from the lake to the Missouri, some 600 miles distant. The lake is said to have 300 miles of shore line, but it never has been fully explored. It certainly is the gem of the lakes, set as it is in a series of mountain peaks, pine-clad and snow-crowned. The monotony of its crested waves is broken by a verdure-clad island, giving it the appearance in summer of an emerald in a setting of brilliants. On the return trip from the lake the tourist will be repaid by short divergence from the trail for a glimpse of the Mud Volcano, which, while it was shorn of its symmetrical crater by a convulsion several years ago, is still a singular spectacle. Looking down into its deep and slimy crater one may see a mass of mud and water rushing athwart the aperture, ever and anon spurting toward the surface. At irregular intervals this slimy substance is shot high into the air, plastering the adjacent cedars now sapless and shorn of their green vestments by the hot blasts from below. These are the principal objective points of a tour in the park. There are many other interesting places, such as Gibbon Falls and canyon; Petrified Forests; Hoodoo, or Gaflin, Mountains; Mount Washburne, from whose summit may be seen the steaming geysers in the distance, and a general bird's-eye view gained of the whole picturesque plateau.

Yeoman, a term which seems, in early English history, to have been applied to a common attendant menial servant, but after the 15th century came to denote a class of small freeholders, forming the next grade below gentlemen. The term yeoman was also given to the 40-shillings freeholder, or, more loosely, to any small farmer or countryman above the grade of laborer. The term is also familiar in the titles of functionaries in royal households, such as yeoman usher of the black rod, yeoman of the robes, etc.

Yeomanry, specifically, a force of volunteer cavalry first embodied in Great Britain during the wars of the French Revolution, and consisting to a great extent of country gentlemen and farmers. They are liable to be

called out in aid of the civil power in case of riot at any time; in case of actual invasion, or the appearance of an enemy on the coast or during a rebellion, they may be assembled for actual service; they are then subject to the Mutiny act and Articles of War, The yeomanry volunteered for service in the late South African war.

Yerkes Observatory, the observatory of Chicago University, at William's Bay, Wis., near the shore of Lake Geneva, 75 miles N. of Chicago. founded in 1892 by Charles T. Yerkes, of Chicago, and completed in 1895. The site, chosen with a view to escaping the smoke, dust, electric lights, and noise of a city, consists of fifty acres of wooded land. The observatory, in the form of a Roman cross, with three domes and a meridian room at the end of each, is 330 feet long from E. to W., and is the largest and most complete building for the purpose in the world. It has a hall through the center, and on either side of this, library, computing room, lecture room, museum, two spectroscopic laboratories, galvanometer room, chemical laboratory, photographing rooms, physical laboratory, optician's room, and a workshop. The great dome, the largest in the world, 90 feet in diameter and weighing 70 tons, is at the W. end. It is revolved, and the shutter opened and closed, by an electric motor, which also raises and lowers the floors. Under this dome is the immense Yerkes telescope. Two lesser domes house two other telescopes, besides which the observatory has sidereal and meantime clocks, a solar spectograph, a stellar spectograph, a position micrometer, a photoheliograph, a meridian circle, and a transit instrument. The heliostat room is 100 feet long by 12 feet wide, and has an iron roof which rolls off to the S. The heliostat, with plain mirror 12 inches in diameter, is on a pier at the N. end of the room. The building containing the engines, dynamos, and boilers for generating power and heat, is for safety, several hundred feet distant from the observatory. In the instrument shop it is hoped it will be possible to construct instruments and laboratory apparatus for advanced investigation, under the immediate supervision of those who are to use them. The observatory issues several publications, including irregularly issued bulletins containing announcements of discoveries and results, and the "Astrophysical Journal." Its director is Prof. George E. Hale. Dr. T. J. J. See is Professor of Astronomy in Chicago University.

Yerkes, Charles Tyson, an American capitalist; born in Philadelphia, Pa., June 25, 1837; was engaged as exchange broker in 1858–1861, and as banker in 1861–1886. He failed in 1871, being at the time in debt to the city of Philadelphia for bonds sold on its account, and as he refused to give the city preference over other creditors he was prosecuted and imprisoned, but afterward pardoned, and his conviction was subsequently pronounced illegal. He has since become very wealthy, and prominent in great enterprises in Europe and America. In 1892 he gave the University of Chicago the great telescope. He died Dec. 29, 1905.

Yew, an evergreen tree with spreading branches, linear acute leaves more or less falcate, coriaceous, shining above, paler below, arranged in two ranks. It is indigenous in most parts of Continental Europe and in the Himalayas 6,000 to 10,000 feet above the sea-level. The sap wood of the yew is white, the heart wood red, hard, close-grained, and susceptible of a fine polish. It weighs 59 pounds to the cubic foot. It is prized in Europe by cabinet makers, and was formerly much used in England for bow making. See also TAXUS.

Yezidi, or **Yezidee,** a sect of religionists who, while admitting that God is supreme, yet believe the devil to be a mighty angel deserving of worship. They live near the Euphrates.

Yezo, or **Ezo,** less correctly Yesso, native Hokkaido, the most N. of the four great islands of Japan; still only partially settled; area, 36,299 square miles; pop. 610,155. Its official name is Hokkaido, or "Circuit of the Northern Sea," received in 1870, when it was brought under a special colonization department. An agricultural mission from the United States assisted in founding model farms, laying out roads, and building bridges.

The capital was changed from Matsumae to Sapporo, which was provided with a railroad to Otam, its port, and to Poronai, the great coal district inland. An agricultural college, breweries, canning factories, beetroot sugar factories, etc., were established, but with inconsiderable results. The coal mines are worked by convict labor. A system of military settlements has of late years been put into force, partly with the view of furnishing a militia against possible invasion from Russia, which is supposed to covet the fine harbors of Yezo. The principal products of Yezo are coal, seaweed, sulphur, fish, the catches of salmon on the river Ishikari being sometimes enormous. The fauna and flora of Yezo differ materially from those of the main island. The Yezo pony, originally from Nambu on the main island, is hardy, and foreign blood has been introduced, promising good results. The original inhabitants of Yezo were probably pit dwellers, of whom distinct traces have been found. After these came Ainos or Ainus, whose principal settlement is at Piratori, 50 miles E. of Mororan. The bear festival in September, is the great event of their year. The Ainos number 15,000, and are a harmless and remarkable race. The S. corner of the island was wrested from them in the 16th century, and the castle of Matsumae, in the extreme S. W., became in the next century the headquarters of Japanese rule. Yezo has a rigorous climate, being for six months of the year under snow and ice (two feet in the S. to eight feet in the N.). The center of the island is but little known, though it has been crossed twice or thrice by Japanese and European explorers.

Yoder, Robert Anderson, an American educator; born in Lincoln co., N. C., Aug. 16, 1853; was graduated at North Carolina College in 1877; had charge of the Concordia High School, North Carolina; ordained in 1879; held pastorates in North Carolina; president of the Concordia College in 1888–1891; and became president of Lenoir College, North Carolina, in the latter year.

Yokohama, the chief port of entry in Japan, and the headquarters of foreign shipping companies, banks, consulates, and commerce generally. Yokohama is a poorly laid-out town with narrow winding streets. The Bluff, however, conceded for residence in 1867, is a beautiful spot, commanding fine views of Fuji-san and of Yokohama bay. The bay is beautiful. Work on a large harbor was carried out in 1889–1896; it is enclosed by two breakwaters 1¼ miles long, and an iron pier, 1,900 feet long. Pop. (1908) 394,303.

Yonkers, a city in Westchester county, N. Y.; on the Hudson river and the New York Central & Hudson River railroad; 15 miles N. by E. of the Grand Central depot, New York city; has a beautiful location, with fine views of the river and Palisades; contains the old Phillipse Manor House (now the City Hall), Hebrew Home for the Aged and Infirm, Leake and Watts Orphanage, Homœopathic Home, St. Joseph's and St. John's hospitals, Mount St. Vincent Convent, and the former residences of Samuel J. Tilden and Edwin Forrest. Pop. (1910) 79,803.

York, city and capital of York county, Pa.; on Codorus creek and the Pennsylvania and other railroads; 94 miles W. of Philadelphia; historically noted as the meeting-place of the Continental Congress while the British held Philadelphia (1777); is in a rich farming section; and manufactures farm implements, wire-cloth, wall-paper, brick, soap, organs, pianos, hosiery, condensed milk, and carriages and wagons. Pop. (1910) 44,750.

York, a city in Yorkshire, England, 188 miles N. of London. The great object of attraction is the minster or cathedral the finest in England, which dates from the 7th century, but did not begin to assume its present form till the 12th century, and was not complete till 1472. It is built in the form of a Latin cross with choir, aisles, transepts, a central tower and two W. towers. York was the capital of Roman Britain. Pop. 77,793.

Yorktown, a town and county-seat of York co., Va.; on the York river; 7 miles W. of Chesapeake bay. Here is the oldest custom house in the United States. The city has a monument

commemorating the surrender of the British army under Lord Cornwallis. It is historically famous for its two sieges. In the first the British, numbering 8,000, made a stand and threw up earth works, in August, 1781, and were supported by several vessels in York river. Washington with an army of 16,000, including 7,000 Frenchmen, and aided by a French fleet under Count de Grasse, forced the surrender of the place, Oct. 16, 1781. The total loss of the allied troops was about 300 and that of the British about 550. This was the last important action in the Revolutionary War. In the spring of 1862 the city was occupied by 50,000 Confederates under Generals Johnson and Magruder. On April 5, General McClellan laid siege to it with 90,000 men. The Confederates withdrew secretly from the city on the night of May 3-4, towards Richmond; they were pursued till the 5th, when the battle of Williamsburg was fought, resulting in a victory for the Union army.

Yosemite Valley, a cleft in the W. slope of the Sierra Nevada, about the center of California, and 140 miles E. of San Francisco. The name Yosemite is an Indian word which signifies "large grizzly bear." This celebrated valley, noted for the sublimity and beauty of its scenery, is about 7 miles long and ½ to nearly 2 miles in breadth, and is traversed by the Merced River. When one arrives in the valley, at the bottom of the canyon, he finds himself as it were in a room. The floor of the room is a mixture of meadow and woodland, and a river runs across it, entering by a door at one end and going out by a door at the other end. The river averages about 50 yards in width. Through a second door in the upper end another stream (Jenayale creek) comes into the room, but joins the Merced soon after entering. The walls of the room are of granite, and are in places quite plumb, in others nearly plumb, and elsewhere they have a tendency to tilt back a little. At the upper edges they are hacked and gouged out of all semblance of regularity or neatness. It would be next to impossible to put a roof on the room without leaving large gaps underneath. The chips and splinters made by the hacking and gouging lie in vast heaps piled up against the lower part of the walls, and are generally overgrown with forest vegetation.

If the Eiffel Tower were standing on the floor of the Yosemite room and you were looking down at it you might easily take the tower to be a queer bit of bric-a-brac, resembling possibly the burned stump of a California big tree.

Next consider the great torrents of water pouring over the top of the walls here and there along each side, through gaps made by the hacking and gouging. The streams are not broad like Niagara, nor even as wide as the Rhine Falls at Schaffhausen, but what they lack in width is more than made up by length. The Bridal Veil Fall, which drops from a low part of the wall, measures 900 feet from top to bottom. It makes one clear drop of 600 feet, and comes down the other 300 by a series of jumps. The Ribbon, the Sentinel, and the Royal Arch are falls that, after rolling over the edge, must get through space of from 2,000 to 2,500 feet before arriving at the floor. There are others; but the most notable of all, as far as figures go, is the Yosemite Fall. This one makes a clean skip of about 1,450 feet from the first jumping-off place; then in a succession of hops it comes down 626 feet lower, and then it drops 400 feet, straight down. After that it goes downward in a series of cascades a further matter of 80 or 100 feet. Altogether the height of the fall is reckoned at 2,550 feet. Other notable features are Mirror Lake, Cathedral Rock, Half Dome, 4,700 feet high; Three Brother, 4,000 feet, and El Capitan, 3,400 feet.

Youmans, Edward Livingston, an American scientist, long the editor of the "Popular Science Monthly"; born in Coeymans, N. Y., June 3, 1821. He died in New York city, Jan. 18, 1887.

Youmans, William Jay, an American chemist; born in Milton, Saratoga co., N. Y., Oct. 14, 1838; was for a number of years editor of the "Popular Science Monthly," succeeding his brother Edward. He died in Mount Vernon, N. Y., April 10, 1901

Young, Andrew White, an American political economist; born in Carlisle, N. Y., March 2, 1802. He died in Warsaw, N. Y., Feb. 17, 1877.

YOSEMITE FALLS, CALIFORNIA

Young, Bennett Henderson, an American lawyer; born in Nicholasville, Ky., May 25, 1843; served in the Confederate army under Gen. John H. Morgan in the Civil War; and represented Kentucky at the Paris Exposition in 1878.

Young, Brigham, an American Mormon; born in Whitingham, Vt., June 1, 1801. He learned the trade of a painter and glazier. Early in life he joined the Baptists, but when about the age of 30 was converted to Mormonism, and openly joined the sect at Kirtland, O., in 1832. In 1835 he was ordained an elder and sent forth among the 12 apostles, the New England States being the district assigned to him. On the death of Joseph Smith, in 1844, he was unanimously chosen president and prophet, though he had three competitors for the office, one of whom, Sidney Rigdon, he soon afterward excommunicated. On the forcible expulsion of the sect from Nauvoo, Ill., President Young led them to the valley in the heart of the Rocky Mountains, where he founded the present Salt Lake City. His followers forming a nucleus, others poured into "the Promised Land," and in 1849 an attempt was made to organize a State, to be called the State of Deseret. The United States government refused to sanction the new State, but Utah was organized as a territory, and Young appointed governor.

Young was the founder of polygamy as an institution, and was among the first to practise it. In 1852 he promulgated the "celestial law of marriage," which he declared to have been revealed to Joseph Smith nine years before. A large party, among whom were Smith's wife and sons, in the Church opposed the innovation, and declared the revelation to be a forgery, but Young's influence carried the day. He himself had from 15 to 18 actual wives, besides numerous spiritual wives who were formally "sealed" to him. He was twice indicted for polygamy, but each time the case fell through. His 15th wife sued for a divorce in 1875. He died in Salt Lake City, Aug. 29, 1877.

Young, Charles Augustus, an American astronomer; born in Hanover, N. H., Dec. 15, 1834; was graduated at Dartmouth College (1853). Professor of Mathematics, Physics, and Astronomy in Western Reserve College; captain of a company of the 85th Ohio Volunteers (1862); Professor of Astronomy and Physics in Dartmouth College; Professor of Astronomy in the College of New Jersey, at Princeton (1877). He was a member of the eclipse parties to Iowa in 1869, and to Spain in 1870; of the transit of Venus party to Peking, China, 1874, and organized the Princeton eclipse expedition to Denver in 1878. He discovered the green line of the solar corona in 1869. At the 1870 eclipse he discovered the so-called "reversing layer" surrounding the solar photosphere, and in 1872 detected the bright reversal of many lines of the solar spectrum in ordinary sunlight. He died in 1908.

Young, Clark Montgomery, an American educator; born in Hiram, O.; was graduated at Hiram College; and after 1883 engaged in educational work in South Dakota. He was secretary of the Territorial Board of Education of Dakota, and of the State Board of Education of South Dakota; and Professor of History and Sociology in the University of South Dakota. He died in 1908.

Young, Frederick George, an American educator; born in Burnett, Wis., June 3, 1858; was graduated at Johns Hopkins University in 1886; was vice-principal of the State Normal School, in Madison, S. D., in 1887–1890; principal of the Portland High School, Oregon, in 1890–1894; president of Albany College, Oregon, in 1894–1895; and became Professor of Economics and History in the University of Oregon in the latter year. He was a member of the State Constitutional Convention of South Dakota in 1889.

Young, James Thomas, an American author; born in Philadelphia, Pa., Sept. 23, 1873; graduated at the University of Pennsylvania in 1893; Ph. D. Halle Univ. Germany, 1895.

Young, Jesse Bowman, an American clergyman, author, and editor; born in Berwick, Pa., July 5, 1844; was graduated at Dickinson College in 1868; served three years in the Union army in the Civil War, ending as captain; entered the ministry of the Meth-

odist Episcopal Church, and was pastor in Pennsylvania and Kansas City, Mo.; editor of the "Central Christian Advocate."

Young, John Russell, an American journalist; born in Dowington, Pa., Nov. 20, 1841. At the outbreak of the Civil War, war correspondent; joined the editorial staff of the New York "Tribune"; established the "Morning Post" in Philadelphia; the "Standard" in New York; was European correspondent of the New York "Herald," as correspondent of the same paper he accompanied General Grant in his journey round the world; was appointed minister to China; was appointed Librarian of Congress, June 30, 1897. He died in Washington, D. C., Jan. 17, 1899.

Young, Mrs. Julia Evelyn, an American verse writer and novelist; born in Buffalo, N. Y., Dec. 4, 1857.

Young, Robert Anderson, an American author; born in Knox co., Tenn., Jan. 23, 1824; was graduated at Washington College, Tenn., and united with the Methodist Episcopal Church, South; and held pastorates in several cities in Tennessee. He was president of the Wesleyan University, Florence, Ala., financial secretary of the Board of Trustees of Vanderbilt University; secretary of the Board of Missions of the Methodist Episcopal Church, South. Died 1902.

Young, Samuel Baldwin Marks, an American military officer; born in Pittsburg, Pa., Jan. 9, 1840; entered the Union army in 1861; served with distinction through the Civil War; and was brevetted Brigadier-General; joined the regular army; was commissioned a Brigadier-General of volunteers, May 4, 1898; and participated in the Cuban campaign; was promoted Major-General of Volunteers, and honorably discharged after the surrender of Santiago; served in the Philippines in 1889–1901; was promoted Brigadier-General, U. S. A., Jan. 2, 1900; Major-General, Feb. 2, 1901; and for a time served as military governor of Northwestern Luzon and was commander of the 1st District, Department of Luzon. Later in the same year he was placed in command of the Department of California. In February, 1902, he was selected to be the first president of the newly-established Army War College, in Washington, D. C.; Lieutenant-General in 1903.

Young, Samuel Hall, an American clergyman; born in Butler, Pa., Sept. 12, 1847; was graduated at the University of Wooster and at the Western Theological Seminary, Allegheny, Pa.; and ordained in the Presbyterian Church. He went to Fort Wrangel, Alaska, as a missionary and explorer; organized the first Protestant Church in Alaska; held pastorates in California, Illinois, Iowa, and Ohio; later sent to the Klondike; appointed superintendent of Presbyterian missions in Alaska.

YUCCA, OR ADAM'S NEEDLE.

Young Men's Christian Associations, organizations of young men in the different cities, demanding a profession of Christianity in their active, and good moral character in their associate members, and working by meth-

ods in harmony with Christianity for the physical, social, mental, and spiritual improvement of their members, and of young men in general. They originated in an invitation from Mr. George Williams, a London dry-goods merchant, to a number of his clerks to meet in an upper room of his warehouse for the study of the Bible and prayer. This was in 1844. The meetings proved so beneficial, that rooms were hired in a central locality and other young men were invited to attend. Similar associations were organized in other cities and gradually over the whole country. In 1851 the movement reached America. An association was formed in Boston Mass., and another in Montreal, Canada. Since that time the number of Young Men's Christian Associations has rapidly multiplied.

Youngstown, city and capital of Mahoning county, O.; on the Mahoning river and the Baltimore & Ohio and other railroads; 66 miles S. E. of Cleveland; is in the richest bituminous coal section of the State; is engaged in mining coal and manufacturing farm implements, iron, steel, leather and belting, oil cloth, iron pipe, rubber goods, flour, and boilers; and contains a Federal Building, McMillan Library, Baldwin Memorial Kindergarten, Rayen School, City and Mahoning Valley hospitals. Pop. (1910) 79,066.

Young Women's Christian Associations, societies devoted to the spiritual, mental, social and physical development of young women. In the United States, these associations grew out of the Ladies' Christian Union of New York, established in 1858, the first Young Women's Christian Association in this country being formed in Boston, Mass., in 1866.

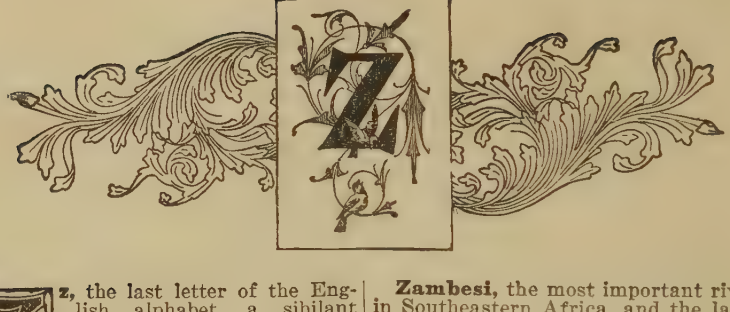
Ypsilanti, a distinguished Greek family claiming to be descended from the Comneni. DEMETRIUS, born in 1793, entered the Russian service, and joining the Greeks in their war of independence distinguished himself so highly as to be made commander-in-chief of the Greek army after the liberation of Greece from the Ottoman yoke. He died in 1832.

Yucatan, a peninsula forming the southeastern extremity of Mexico. Before its conquest by the Spaniards it was the seat of a flourishing civilization. It is not for the most part a sparsely cultivated region, whose forests yield excellent timber, cabinet-woods, and dye-woods, and which has recently been productive of great quantities of sisal or so-called Yucatan hemp. Five-sixths of the inhabitants are Indians, preserving the speech of their ancestors, whom the Spaniards dispossessed. In 1861 the peninsula, which since 1824 had formed one state in the Mexican Confederation, was divided into two: Yucatan, area, 35,302 square miles, pop. 314,087, capital Merida; and Campeachy, area, 18,087 square miles, pop. 86,542.

Yucca, a genus of American plants, natural order Liliaceæ popularly known as Adam's needle. They are evergreen shrubs, their stem tending to arborescence, crowned by a circle of linear, lanceolate, rigid leaves, from the center of which rises a large panicle of snow-white, whitish-green or cream-colored flowers.

Yukon, the largest stream in the extreme N. W. portion of the North American continent, rising in Canada about latitude 57° 45′ N., longitude 130° 45′ W. It pursues a generally westward course, of which the length is estimated at 2,044 miles, the greater portion in Alaska, and enters the Pacific Ocean. It gives its name to a N. W. territory of Canada, with an area of 196,327 square miles, and a population (1901) of 27,219.

Yung Wing, a Chinese diplomatist; born in Nau Ping, China, Nov. 17, 1828; came to the United States in 1847; was graduated at Yale College in 1854; and in 1864 was commissioned by the Chinese government to buy machinery in the United States for the arsenal of Kiang-Nau. In 1875 he married Miss Mary Kellog of Hartford, Conn., an act, which led to his recall. In 1878 was appointed assistant minister of China to the United States, where he remained till the outbreak of the Chino-Japanese War. At the close of the war he was appointed one of the peace commissioners. In 1902 he returned to the United States, and took up his residence in Hartford, Conn.



Z, the last letter of the English alphabet, a sibilant consonant. The words in modern English which begin with z are all derived from other languages, principally from Greek. It was not known in the oldest English.

Zahm, John Augustus, an American educator; born in New Lexington, Perry co., O., June 14, 1851; was graduated at Notre Dame University in 1871; entered the Order of the Holy Cross in the same year; had charge of the scientific department of Notre Dame University in 1874; was curator of the University Museum for many years; and became provincial of the Order of the Holy Cross in 1897.

Zahringen, the house from which the present grand-ducal family of Baden takes its origin. The name is derived from the ruined castle of Zahringen, in a village of the same name, 2 miles N. of Freiburg in Baden.

Zaire, a name given to the great African river Kongo in part of its lower course.

Zalinski, Edmund Louis Gray, an American military officer; born in Kurnick, Prussian Poland, Dec. 13, 1849; came to the United States in 1853 and entered the army at the age of 15; received a commission in 1866. From 1872 to 1876 he was Professor of Military Science at the Massachusetts Institute of Technology; was graduated at the Artillery School, Fort Monroe, in 1880, and at the School of Submarine Mining, Willetts Point, several months later. In 1889 he was sent to St. Petersburg as military attache to the American Legation. He retired in 1894; died in 1909.

Zambesi, the most important river in Southeastern Africa, and the largest flowing into the Indian Ocean. The course of the whole river is about 1,400 miles, and it drains an area of 600,000 square miles.

Zane, Ebenezer, an American pioneer; born in Berkeley co., Va., Oct. 7, 1747; made the first permanent settlement on the Ohio river in 1770, on the site of the city of Wheeling, and built there a block house called Fort Henry; held several military and civil offices, and attained the rank of colonel. The land where the city of Zanesville, Ohio, now stands formed a portion of his property. He died in 1811.

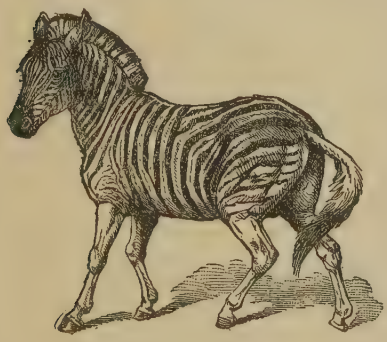
Zanesville, city and capital of Muskingum county, O.; on the Muskingum river and the Baltimore & Ohio and other railroads; 59 miles E. of Columbus; has large river traffic on the Ohio and Mississippi; manufactures soap, iron, glass, machinery, tubes, woolen and bent-wood goods, coffins, stoneware, brick, and tile; and contains a Soldiers' and Sailors' Memorial Hall, McIntue Children's Home, Zanesville Athenæum, and Public Library. Pop. (1910) 28,026.

Zangwill, Israel, an English-Jewish novelist; born in London, in 1864. He began life as a London teacher, and while teaching, graduated at the London University. He wrote "Children of the Ghetto," etc.

Zanzibar, a British protectorate in East Africa. The continental part of the protectorate has become part of British East Africa and German East Africa; while the island and town of Zanzibar, and the island of Pemba, are entirely under British protection. The island (area 600 square

miles) is very fertile and well cultivated, being especially suited for the cultivation of cloves, sugar, coffee, cocoa, and various spices, of which there is a considerable export. The population (200,000) is extremely heterogeneous, including Europeans, Arabs, half-caste Portuguese from the Malabar coast of India, and the Suahilis from the mainland. In 1899 Germany removed her rights of extra-territoriality in Zanzibar from such time as the similar rights possessed there by Great Britain should be abolished. The imports in 1899 had a value of $7,983,030, and the exports $7,567,035. Zanzibar, the chief town (100,000 inhabitants), on the W. side of the island, is the center of trade for the E. seaboard of Africa and of missionary and exploring work for the interior. At the instance of the British government the slave trade has been abolished and slavery was nominally abolished in 1897.

Zebra, a popular name for any of the striped forms of the genus Equus; thus embracing the quagga, the true zebra, and Burchell's zebra. In all



BURCHELL'S ZEBRA.

three the external characters are those of the ass rather than of the horse; the legs are without warts, the tail is furnished with long hairs only toward the extremity, the neck is full and arched, and the mane stiff and erect. All the species of this division are rapidly vanishing before advancing civilization, and in all probability will become extinct before very many years.

Zebu, the native name for any breed or individual of Bos Indicus. The zebus attain their greatest development in India, but range E. to Ja-

THE ZEBU.

pan and W. to the Niger river. They vary greatly in size, some being larger than European cattle, while others are no bigger than a month-old calf.

Zebulun, the 10th son of Jacob; he gave his name to one of the 12 tribes of Israel, and to a region of Palestine.

Zechariah, or **Zacharias,** the name of many ancient Hebrews, including two prophets, various priests, and Levites, and other prominent men.

In the Old Testament canon, the 11th in order of the 12 minor prophetic books. The name prefixed to it is that of "Zechariah, the son of Berechiah, the son of Iddo the prophet." In Ezra he is called the son of Iddo, but son is sometimes used vaguely for lineal male descendant, and may easily signify grandson. When Cyrus permitted the Jews to return from Babylon he also accorded them permission to rebuild the temple and the foundations of the edifice were at once laid. The jealousy of the neighboring tribes led to the stoppage of the work. In the second year of Darius Hystaspes, permission was obtained to resume it and building was recommenced with the patronage and active aid of Zerubbabel the civil governor of Judæa, Joshua the High Priest, etc. Enthusiasm for the work was excited among the previously apathetic people by the proph-

ets Haggai and Zechariah. The former seems to have been the senior in point of years, and commenced his addresses and predictions in the sixth month of the second year of Darius, while Zechariah did so in the eighth month. In the first part of the book the prophet counsels a return to Jehovah; in the second, which has in it various symbolic visions, he encourages the building of the temple. The style of chapters ix.–xi. differs from that of the first eight; and that of xii.–xiv. to a certain extent from both. In x: 6, the house of Judah requires to be strengthened, that of Joseph to be saved, and in verse 11 is the prediction "the pride of Assyria shall be brought down," as if it stood when the words were penned; whereas by the time of Darius Hystaspes it had forever passed away. Some assign these chapters to an earlier Zechariah, a contemporary of Isaiah (about 736 B. C.).

Zedekiah, the son of Josiah, King of Judah, placed on the throne after Jehoiakin had been removed by Nebuchadnezzar, on his second taking of Jerusalem, 599 B. C. He reigned during 11 years. He entered into an alliance with Pharaoh-Hophra, King of Egypt, and revolted against Nebuchadnezzar, who laid siege to Jerusalem. The prophet Jeremiah counselled Zedekiah to save his city and throne by submission to the Chaldeans; but the king maintained his defense of the city. The Egyptians came to his relief; but, on Nebuchadnezzar offering them battle, they retreated to their own country, and Jerusalem, after undergoing a siege of 19 months, was taken 586 B. C. The king endeavored to escape, but was captured and condemned to behold his sons slain before him; after which his eyes were put out, and he was carried to Babylon. The city was almost entirely destroyed, and the people led into captivity.

Zend Avesta, the religious book of the Parsees or representatives of the old creed of fireworshipers. The original is written in the primitive Zend language, with a translation into the comparatively modern Pehlevi made by order of the Sassanian dynasty, A. D. 235–651.

Zenith, the highest point in the heavens to a spectator at any given place, the point from which if the earth were absolutely spherical a perpendicular let fall would pass through its center. Also used to express the highest point of a person's fortune; the highest or culminating point of any subject referred to.

Zenobia, a Queen of Palmyra, who succeeded to the throne as regent for her sons on the murder of her husband Odenathus, A. D. 266. Not content, however, with the independence granted by the indolent Emperor Gallienus and his successor, Claudius, she aimed at a dominion which should include Egypt, Syria, and Asia Minor, and make good her vaunted title of Queen of the East. The accession of Aurelian, however, in 270, once more placed a soldier at the head of the Roman empire, and in 273 the armies of Zenobia were defeated in two pitched battles, while Palmyra was taken and its queen made prisoner. According to Zosimus she died on her way to Rome.

Zero, in common language means nothing; in arithmetic it is called naught, and means no number; in algebra, it stands for no quantity.

Zeus, the greatest of the national deities of ancient Greece; according to the most received mythology, son of Cronos and Rhea. With the help of his brothers and sisters, Poseidon, Hades, Hestia, Hera, and Demeter, he overthrew Cronos and the Titans, assumed the sovereignty of the universe, and took as his peculiar province the heaven above, giving to Hades the infernal regions, to Poseidon the sea, the earth being left subject to the influence of all three, though to Zeus belonged the supremacy.

Zimmerman, Eugene, an American cartoonist; born in Basel, Switzerland, May 25, 1862; removed to the United States, and received a public school education in Paterson, N. J.; was employed on "Puck" in 1882-1885. In the latter year he became a caricaturist for "Judge."

Zinc, a bluish-white lustrous metal which does not occur in the native state, but is obtained from its ores, chiefly the sulphide, or zinc-blende, the carbonate, or calamine, found in the United States and various parts of Europe. Zinc has a crystaline lamellar structure, and a low melting point.

Zincography, an art analogous to lithography.

Zion, or **Sion,** the highest and most S. mount of Jerusalem; rising about 2,500 feet above the Mediterranean, and from 200 to 300 feet above the valleys at its base. It was a fortified town of the Jebusites till subdued by David, and thenceforward was called the "City of David." A mosque near its S. brow now covers the "tomb of David" so called, most jealously guarded by the Mohammedans. On it were erected the magnificent palaces of Solomon, and long afterward those of Herod. At the present day a considerable portion of it lies outside the modern wall on the south.

Zion City, an industrial town and religious community established near Chicago, Ill., by J. A. Dowie (q. v.). Following factional troubles in 1906, the properties, valued at $20,000,000, went into a receiver's hands.

Zionism, a name given to a scheme for the acquisition of Palestine by purchase from Turkey, with a view to establishing the Jews in the Holy Land.

Zionism has made great progress, and is championed by some of the greatest living Jews. While its aim is to populate Palestine with Jews, and provide a refuge there for some of the persecuted Jewish millions of Russia, Rumania, etc., it is not averse to Jewish settlement in other desirable localities, and a suggestion from the Federation of American Zionists through Jacob H. Schiff (q. v.) in Dec., 1906, for a settlement near Galveston, Texas, was regarded favorably by Zionist leaders.

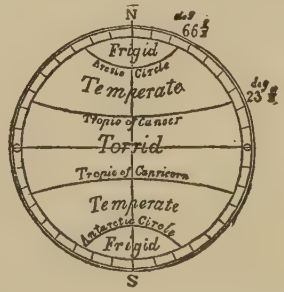
Zither, or **Zithern,** a development of the musical instrument known to the Greeks as cithara. In the early part of the 19th century it became a favorite with the peasantry of the Styrian and Bavarian Alps.

Zodiacal Light, a pearly glow spreading over a portion of the sky near the point at which the sun is just about to rise in the morning or has just set in the evening. It extends from the horizon to a considerable distance toward the zenith, and is best seen in the tropics in spring evenings.

Zoe, Empress of the East; daughter of Constantine IX.; a bad woman, but a strong and able ruler. Died, aged 72, in A. D. 1052.

Zola, Emile, a French novelist; born in Paris, France, April 2, 1840; the son of an Italian engineer. After working for Paris publishers and writing for the press he attempted fiction with success. During 1897 and 1898 he took up with splendid courage the cause of Captain Dreyfus, whom he declared to have been illegally condemned, and was in consequence of his action prosecuted by order of the French government, and condemned to imprisonment. He escaped punishment by voluntary exile in England. Returning to Paris after the subsidence of the excitement caused by the Dreyfus case, he resumed his literary work, but lived only till the night of Sept. 28, 1902, when he was accidentally killed by gas escaping from a coal fire.

Zollars, Ely Vaughan, an American educator; born in Lower Salem, O., Sept. 17, 1847; was graduated at Bethany College in 1875; was president of the Kentucky Classical and Business College in 1877–1884 and of the Gerrard Female College in 1884–1885; pastor of the Church of Christ, Springfield, Ill., in 1855–1888; and became president of Hiram College in 1888.



ZONES OF THE EARTH.

Zone, in anatomy, a region of the body formed by imaginary lines drawn around it transversely; used specifically, of the abdominal zones or regions. In biology, a stripe or belt, as of color, on a plant, a shell, etc. Also a certain stratum of sea water, the depth of the upper and under surfaces of which are generally measured or calculated in fathoms.

In geography, one of five imaginary

belts surrounding the earth. They are the North Frigid Zone, between the North Pole and the Arctic Circle; the North Temperate Zone, between the Arctic Circle and the Tropic of Cancer; the Torrid Zone, between the Tropic of Cancer and the Tropic of Capricorn; the South Temperate Zone, between the Tropic of Capricorn and the Antarctic Circle; and the South Frigid Zone, between the Antarctic Circle and the South Pole.

Zoölatry, animal worship; adoration paid by man to any of the lower animals. This cultus seems to have passed through three stages: (1) The animal was reverenced and propitiated as possessing a power greater than that of man. (2) The animal was regarded as an incarnation of some deity or spirit. (3) It was raised to the position of a tribal ancestor.

Zoölogical Garden, a public garden in which a collection of animals is kept. There are in the United States seven zoölogical gardens — at New York, Philadelphia, Cincinnati, Chicago, Cleveland, St. Louis, and San Francisco. The S. E. section of Bronx Park (654 acres), New York, comprising 261 acres, is in charge of the New York Zoölogical Society, which is developing there the most extensive zoölogical garden in the country, containing 55 different series of buildings, cages, and ranges.

Zoölogy, that portion of natural history which treats of the classification, structure, habits and habitations of animals. Closely related to zoölogy is the study of embryology, while comparative anatomy and physiology are the branches which dominate the study of the physical structure of man. Living matter, or bioplasm, may be considered physically as a peculiar compound of the chemical elements — carbon, oxygen, nitrogen, and hydrogen, called by Mulder proteine, and by Huxley and the German histologists protoplasm, or the physical basis of life. It is nearly identical with albumen. So far as is known, this combination of elements is always the product of pre-existing living matter. The term bioplasm is well applied to express matter in its living state, while protoplasm should be restricted to the material itself. Bioplasm is a semi-fluid substance, yet it will not freeze at 32° F., as water does, proving that, in this respect, at least, it is different from water. If we consider their origin, both animals and plants begin life as a small particle of bioplasm. In plants this forms an ovule, with a wall of cellulose; in animals it becomes an ovum or egg, with a wall of albuminous matter, in which life develops.

Zoroaster (so the Greeks pronounced the name of Zarathushtra), the founder or reformer of the ancient religion of the Parsees. He appears as a historical person only in the earliest portion of the Avesta, the Gathic hymns, where the aspirations, hopes, and fears of an actual human agent are unmistakably present. His name means "Bay camels." His father was Pourusaspa, "Many horses"; his wife was Hvogvî; his daughter was Pouruchista, the Discreet. His family name was Spitama. This much we may accept from the statements of documents, but as soon as we leave the last Gatha, which was the wedding song of his daughter, we have no reliable data. In the course of his career he composed religious-political hymns, the Gathas, of which we have now only fragments surviving in meters which appear (or reappear) in the Rik and in other parts of the Veda. The period in which he lived is uncertain, placed later than 800 B. C., and may be much earlier, according to good authority.

Zouave, a soldier belonging to the light infantry corps of the French army, which was organized in Algeria, soon after the conquest of that country in 1830, and was originally intended to be composed exclusively of the Kabyle tribe. This idea, however, was soon abandoned, and since 1840 the corps has been composed almost entirely of French soldiers, recruited from the veterans of ordinary line regiments, who are distinguished for their fine physique and tried courage.

Zuider Zee, a large gulf of the North Sea, penetrating deep into the Netherlands; about 60 miles in length, and 210 miles in circumference. The islands Texel, Vlieland, Ter Schelling, Ameland, and Schiermonnikoog, reaching in a chain from the most N. point of Holland, are the remains of a former line of coast, and form a breakwater against the North Sea. From Dunkirk in French

Flanders to the N. of Holland the interior is defended from the sea by sandhills or dunes. Here, as at the mouth of the Scheldt, the sand barrier was broken, and in 1282 the waters overflowing the low lands separated the province of Friesland from the peninsula of North Holland, and, having united with the small inner lake Flevo, formed the present Zuider Zee. In it lie the islands Wieringen, Urk, Schokland, and Marken. From the S. W. of the Zuider Zee a long narrow arm, called the Y (pronounced I), formerly ran nearly due W. through the peninsula of Holland. A strong sea dyke and locks have been constructed to cut off the Zuider Zee from the Y, through which there is a broad ship canal between Amsterdam and the North Sea. On both sides of the canal the Y has been drained and turned into about 12,000 acres of rich land. The waterway was formally opened by the king in 1876. A drainage scheme which a state commission (1892–1894) recommended, proposed to reclaim in 31 years, 450,000 acres at an estimated cost of $155,000,000.

Zulus, or **Amazulus,** that branch of the great Bantu division of the human family found in Natal, South Africa. Among the Bantu tribes, the Zulus are conspicuous for their physical and intellectual development. By nature the men are brave and are given to field sports, and, where opportunity offers, to border forays and intertribal strife. The Zulu polity is that of a pure democracy, the chiefs being elected, and holding office during the pleasure of the people. This pleasure is expressed through parents to subheads of districts, through them to the heads of larger districts, and through these in turn to the chief direct. Legislation occurs in the same way, through an expression of feeling from the body of the people to the chief through the heads of districts. A very complete, though unwritten, code of law, civil and criminal, exists and is well known to every adult Zulu. Polygamy is practised throughout the country, and has been from time immemorial; the marriage tie, however, with the 10th or 20th wife is as sacred as where monogamy prevails. As a race the Zulus are conspicuous for their morality and freedom from drunkenness and crime. Missionary efforts to Christianize have been more tolerated and acquiesced in than successful. The pursuits of the people are pastoral. Trading is little known, and the arts are limited to the primitive needs of simple iron work, pottery, and ornaments of copper, ivory, horn, or wood.

Zurich, capital of the canton of Zurich; 41 miles N. N. E. of Lucerne and 43 N. W. of Glarus, at the point where the Limmat issues from the Lake of Zurich and unites with its tributary the Sihl. It is one of the most prosperous manufacturing and commercial towns of Switzerland; yet the narrow streets and lofty houses of its older quarters, on the high ground E. of the river, give it the quaint appearance of a mediæval city. Pop. with suburbs, 151,983.

Zwingli, or **Zuinglius, Ulric,** a Swiss reformer; born in the hamlet of Wildhaus, in the Tockenburg, Jan. 1, 1484. After receiving instruction from his uncle the parish priest of Wessen, he was sent to study first at Basel, then at Berne, and afterward at Vienna. At the age of 18 he returned to his native village, but only to quit it again almost immediately, and renew his studies at Basel. He applied himself to scholastic theology, but gave it up in disgust as a mere waste of time, and soon after rejoiced to hear the teaching of Thomas Wittenbach. Zwingli eagerly studied the classics, and became one of the best scholars of his time. He was also passionately fond of music, and learned to play well on the flute, the lute, the violin, and other instruments. In 1506 he was ordained priest, and accepted the place of pastor of Glarus, which he filled with zeal and devotedness for 10 years. During this period thoughts were working in his mind, which were the germs of the reformation to come. He twice accompanied the Swiss auxiliaries to the wars in Italy, fought at the battle of Marignano; and used his influence with his countrymen to dissuade them from foreign military service. In 1514 he had visited Erasmus at Basel, and was greatly influenced by his writings.

The year of 1516 Zwingli has noted as the period of the commencement of the Swiss Reformation. That same year he removed to the secluded mon-

astery of Einsiedeln, of which he was appointed priest and preacher. His clear and eloquent announcement of scriptural truth astonished his new hearers, and drew crowds from the surrounding country to hear him. In 1519, through his high reputation for learning, piety, and eloquence, and the active influence of his friend Oswald Myconius, Zwingli was appointed preacher at the cathedral of Zurich, and was thus brought into the center of the political movement of Switzerland. His preaching produced immense excitement. In the autumn of the same year he was attacked by the plague, and it was reported that he was dead. He, however, recovered, and with a new vigor and devotedness, and fullness, resumed his work. In 1522 began the action of the court of Rome against the Reformation in Switzerland; the Bishop of Constance, by letter to the chapter at Zurich, attempted to stop the preaching of Zwingli. The latter replied in his "Architeles," and the attempt failed. But an order of the Diet was soon after obtained, which prohibited preaching against the monks. About the same time Zwingli married Anna Reinhold, a widow, and mother of Zwingli's beloved disciple and friend, Gerold. He did not make his marriage known till two years later.

Early in 1523 a conference between the advocates and opponents of the new doctrines was held at Zurich, by order of the Great Council; but the discussions, which lasted three days, left the controversy as it was. Not long after the Reformation was publicly established in Zurich, pictures and statues, etc., were taken out of the churches, and instead of the mass a simple form of celebrating the Lord's Supper was adopted. Education was provided for, and convents were suppressed. In 1528 Zwingli attended the important conferences of Baden, and in 1529 that of Marburg, where he agreed on certain articles of faith with Luther and Melanchthon. Two years later, the long suppressed enmity of the cantons which remained Catholic broke out in open war against Zurich and Berne. At the battle of Cappel the forces of Zurich and Berne were defeated. Zwingli fell on that field, Oct. 11, 1531. His body was discovered, quartered, burnt, and his ashes mingled with those of swine, and scattered to the winds.

Zymotic Diseases, a name applied to epidemic and endemic, contagious diseases, because they are supposed to be produced by some morbific principle acting on the system like a ferment. The chief of these are measles, scarlet fever, smallpox, typhus, typhoid, diphtheria, whooping cough, croup, and erysipelas.

Chronological Table
of
Universal History

DIVIDED INTO ERAS
SHOWING THE MOST IMPORTANT EPOCHS
AND EVENTS IN THE ANNALS
OF THE WORLD

B.C.	Babylonia.	B.C.	Egypt.
5000	Civilization much advanced. Many cities in existence.		Menes, first (traditional) king, date estimated by best authorities from 5004 to 3892.
4500	Enshagsagana reigns.		
4000	Lugalzaggisi reigns.		
3800	Sargon, the first great conquerer.		
3750	Naram-sin, a famous king and soldier.	3700	Kufu I (Cheops) builds the Great Pyramid.
3000	Ur Gur reigns.		
2950	Dungi I.		
2750	Dungi II.		
2400	Babylon becomes a leading city.	2466	Twelfth dynasty begins.
2286	Elam subdues Babylonia.		
2250	Khammurabi defeats the Elamites; makes Babylon his capital.		
2000	Chaldean tribes conquer Babylonia.	2000	Hyksos, or Shepherd, conquest of Egypt.
		1950	Abraham in Egypt.
		1730	Joseph in Egypt.
		1700	The Hebrews enter Egypt.
		1650	The Hyksos expelled.
1543	The Arabian conquest of Babylonia.	1500	Thotmes III, the conqueror.
1400	Babylonian Viceroys govern Assyria.	1400	Seti I invades Asia.
1370	Assyria becomes independent.	1388	Rameses the Great fights the Hittites.
1280	Babylon taken by Assyria.	1320	Exodus of the Hebrews.

Palestine.	B.C.	Assyria.	Egypt.
1274 Joshua conquers Palestine.			
1254 Rule of Judges begins.	1140	Tiglath Pileser I. Babylon made tributary.	Long Period of Decadence under unimportant dynasties.
1067 Saul made King by Samuel.			
1055 David becomes King.			
1015 Solomon the Temple builder.			

B.C.	Palestine.	Assyria.	Egypt.	Greece.
1000	75 Rehoboam. Secession of the Ten Tribes of Israel. 58 Abijah defeats Jeroboam. 55 Asa the Pious. 26 Samaria built. 18 Ahab and Jezebel. 14 Jehosaphat.	30 Assyria regains power. 11 Rimmonnirari.	67 Shishank (Shishak) captures Jerusalem.	Greek history legendary to this period. 1000 (?) Homer's works produced.
900	84 Jehu. Elijah and Elisha, prophets. 40 Jehoash defeats the Syrians. 26 Jehoash takes Jerusalem.	83 Assur-natsir-pal. 60 Shalmaneser subdues Syria and Palestine.		84 (?) Lycurgus the Spartan law-giver. 800 (?) Hesiod.
800	Joel, Amos and Jonah, prophets. 47 Assyrian invasion. 42 Judæa made tributary to Assyria. 30 Israel tributary. 26 Hezekiah reigns. 21 The Ten Tribes taken captive. Isaiah the prophet. 700 (?) Sennacherib's army destroyed.	45 Tiglath-Pileser II forms a centralized government. 21 Sargon takes Samaria; removes the people. 10 Conquers Babylonia. 5 Sennacherib.	700 (?) Tirkaha aids Hezekiah against Sennacherib.	76 Era of the Olympiads. 38 Syracuse founded. 13 First Messenian war.
700	97 Manassah the idolator. 41 Josiah reforms religion. Jeremiah the prophet.	75 Esarhaddon conquers Egypt. 68 Sardanapalus. 25 Nineveh taken and the empire destroyed.	70 Psammitichus introduces Greeks into Egypt. 17 Necho seeks to dig Suez canal. 6 Necho defeated at Carchemish.	85 Second Messenian war. 84 Archonship made annual. 59 Byzantium founded. 24 Draco's cruel laws.

B.C.	Palestine.	Babylonia.	Egypt.	Greece.
600	98 Jerusalem destroyed and the Jews taken to Babylonia. 58 Ezra leads the Jews back to Jerusalem. 36 Jews begin to rebuild the temple.	98 Nebuchadnezzar destroys Jerusalem. 79 Takes Tyre. 69 Conquers Egypt. 38 Babylon taken by Cyrus. 25 Babylonia independent under Nabopolassar.	25 Cambyses conquers Egypt.	94 Solon gives laws to Athens. 60 Pisistratus, tyrant of Athens. Anacreon. Simonides. Pythagorus. 35 First Tragedy. 18 Pindar born.
		Persian Empire.		
		Cyrus conquers Lydia and Babylonia and founds the empire. 29 Cambyses. 25 Egypt subdued. 21 Darius. 7 Invasion of Thrace.		
	Rome.			
500	Early history legendary. 97 Battle of Lake Regillus; first authentic date. 56 Cincinnatus. 51 Laws of Twelve Tables. The Decemvirs appointed. 42 Military tribunes created.	90 Persian defeat at Marathon. 81 Xerxes invades Greece. 79 He is defeated. 38 Ezra the Jew leaves Persia. 55 Nehemiah rebuilds Jerusalem. 1 Cyrus the Younger invades Persia—retreat of the ten thousand.	84 The Persians recover Egypt.	90 Victory at Marathon. 80 The Spartans at Thermopylæ. 79 Battle of Platæa. 14 Pericles becomes supreme. 13 The Parthenon begun. 31 Peloponnesian war begins. 4 Fall of Athens. Æschylus. Herodotus. Socrates. Euripides. Sophocles. Thucydides.

B.C.	Rome.	Macedonia.	Greece.
400			
	87 Gauls take and burn Rome.		93 Walls of Athens rebuilt.
	69 Military Tribunes abolished.	69 Philip becomes King.	71 Battle of Leuctra; Spartan defeat.
			58 Social war begins.
	43 Samnian war begins.	38 He subjugates Greece.	38 War with Macedonia: victory of Philip.
		36 Alexander the Great.	
	27 Latin war; Rome victorious.	34 Alexander invades Persia.	35 Alexander destroys Thebes.
		32 Tyre captured; Egypt conquered.	15 Thebes rebuilt.
		31 Persian empire overthrown.	Demosthenes.
		23 Death of Alexander.	Plato.
		1 Battle of Ipsus—division of Alexander's empire.	Aristotle.
			Xenophon.
		Alexander's Empire.	
300			
	280 Pyrrhus invades Italy.	The Ptolemies in Egypt.	280 Achæan League.
	274 Defeated by Romans.	Seleucus I. in Syria.	279 The Gauls in Greece.
	265 Rome supreme in Italy.	284 Ptolemy Philadelphus.	
	264 Punic wars begin.	Alexandrian Library.	
	255 Defeat of Regulus.	246 Seleucus II.	
	219 Second Punic war.	226 Seleucus III.	226 Reforms of Cleomenes in Sparta.
	218 Hannibal crosses Alps.	223 Antiochus the Great.	
	216 Battle of Cannæ.		211 First Macedonian war.
	211 Conquest of Judæa.		Epicurus.
	202 Defeat of Hannibal at Zama.		Zeno.
200			
	172 Perseus defeated by Rome.	192 Antiochus at war with Rome.	198 Grecian liberty proclaimed.
	149 Third Punic war.	167 Judas Maccabæus occupies Jerusalem.	188 Laws of Lycurgus abolished.
	146 Carthage destroyed.		146 Corinth taken by Rome.
	142 Macedonia a Roman province.	165 Defeats Antiochus.	Greece a Roman province.
	134 Slave revolt in Sicily.	135 Judæa freed from Syria by the Maccabees.	
	133 Conquest of Spain.		
	111 Jugurthine war.		
	109 War with the Gauls.		
	101 Marius defeats the Gauls.		

B.C.	Rome.	
100		
	90-88 The Social War.	48 Cæsar defeats Pompey at Pharsalia.
	88 War with Mithridates.	45 Cæsar dictator for life.
	88-86 Civil war of Marius and Sulla.	44 Assassination of Cæsar.
	82 Sulla dictator.	43 Second Triumvirate—Octavius, Antony and Lepidus.
	73 Rebellion of the Gladiators.	Cicero put to death.
	67 Pompey defeats the pirates.	31 Battle of Actium; defeat of Antony.
	66 Syria a Roman province.	30 Death of Antony and Cleopatra.
	63 Conspiracy of Cataline.	27 Octavius made emperor with the title of Augustus.
	60 The first Triumvirate—Cæsar, Pompey and Crassus.	17-7 Herod rebuilds the temple at Jerusalem.
	58 Cæsar invades Gaul.	4 Birth of Christ, according to Ussher.
	51 Gaul subjugated.	

A.D.	Rome (The Christian Era.)	
	14 Augustus dies. Tiberius succeeds.	69 Vespasian.
	25 Pontius Pilate governor of Judæa.	70 Jerusalem destroyed.
	33 Crucifixion of Christ.	71 Titus.
	37 Caligula.	78-84 Agricola conquers Britain.
	54 Nero.	79 Destruction of Herculaneum and Pompeii.
	64 Great fire at Rome.	95 Persecution of the Christians.
	The Christians persecuted.	98 Trajan.
	66 Revolt of the Jews.	
100		
	17 Hadrian limits the empire at the Euphrates.	63 Persecution of the Christians.
	20 Wall built across Britain.	80 Commodus.
	38 Antoninus Pius.	94 Septimius Severus.
	61 Marcus Aurelius.	96 Capture of Byzantium.
200		
	8 Severus invades Caledonia.	61 The Persians capture Antioch.
	20 Builds wall across Britain.	68 Claudius defeats the Goths.
	22 Alexander Severus.	72 War with Zenobia.
	26 Parthian empire dissolved.	73 Aurelian defeats Zenobia and captures Palmyra.
	Sassanian Persian empire formed.	84 Diocletian and Maximian joint emperors.
	49 Goths invade the empire.	97 Siege of Alexandria.
	59 Valerian taken prisoner by the Persians.	
300		
	5 Abdication of Diocletian.	63 Persian War. Julian killed.
	12 Constantine.	64 Empire divided between Valentinian and Valens.
	13 Proclaims full rights to the Christians.	70 Saxons in Gaul.
	23 Becomes sole emperor.	75 Invasion of the Huns.
	25 Council of Nice.	79 Theodosius the Great.
	30 Constantinople made the capital of the empire.	94 He reunites the empire.
	Christianity the State religion.	95 Empire permanently divided.
	61 Julian the Apostate.	

A.D.	Rome (The Christian Era.)	
400		
	00 Alaric the Goth invades Italy.	55 Genseric the Vandal sacks Rome.
	6 German tribes invade Gaul and (9) Spain.	57 The Saxons in England.
	10 Alaric captures and plunders Rome.	62 The Visigoths in Gaul and Spain.
	39 The Vandals take Carthage.	75 Romulus Augustulus, the last emperor of Rome.
	40 Leo I the Great, bishop of Rome.	
	47 Attila the Hun ravages the Eastern Empire.	76 He is deposed and the Western Empire ends.
	51 Attila defeated at Châlons and (52) invades Italy.	
	The Dark Ages.	
400		
	76 Odoacer King of Italy.	93 Theodoric King of Italy.
	82 Clovis King of the Franks.	95 The West Saxons land in Britain.
	89 Theodoric the Goth invades Italy.	6 Clovis is baptized.
500		
	10 Clovis makes Paris his capital.	51 The silkworm introduced into Europe.
	25 Antioch destroyed by an earthquake.	56 Great earthquake at Constantinople.
	27 The Justinian Code published.	68 The Lombards conquer northern Italy.
	29 Belisarius defeats the Persians and (36) takes Rome.	70 Birth of Mohammed.
	50 Invasion of Slavs and Huns.	72 War of Eastern Empire with Persia.
		99 Church reform by Gregory the Great.
600		
	10 Mohammed begins to preach at Mecca.	39 The Arabs invade Egypt.
	14 Persians take Damascus and Jerusalem.	72 Siege of Constantinople by Arabs; repeated yearly for seven years.
	26 Persians besiege Constantinople.	
	32 Death of Mohammed.	92 Carthage destroyed by the Arabs.
	34 The Arabs take Damascus and (37) Jerusalem.	
700		
	10 The Saracens conquer Spain.	78 Battle of Roncesvalles.
	21 Battle of Tours; Charles Martel defeats the Saracens.	82 Massacre of the Saxons.
		87 The Danes in England.
	68 Charlemagne reigns.	94 Charlemagne holds great council at Frankfort.
	74 Conquers the Lombards.	
	78 Invades Spain.	
800		
	00 Charlemagne crowned Emperor of the West.	62 Rurik becomes first King of Russia.
	14 Death of Charlemagne.	71 Alfred King of Wessex.
	27 Egbert is overlord in England.	78 Defeats the Danes.
	43 Division of Charlemagne's empire.	86 The Northmen besiege Paris.
	45 The Northmen threaten Paris.	99 Louis IV last emperor of the Carlovingian line.
	49 Alfred the Great born.	
900		
	11 Conrad, duke of Franconia, elected emperor.	71 Edward the Martyr King of England.
	18 Henry the Fowler King of Germany.	83 Greenland colonized from Iceland.
	34 Defeats the Hungarians.	87 Hugh Capet elected King of France.
	59 Hugh Capet made Duke of France.	

A.D.	England.	France.	Other Countries.
1000			
	13 Danes conquer England.	31 Henry I.	60-90 The Normans in Sicily.
	17 Canute becomes King.	60 Philip I.	76 The Turks take Jerusalem.
	42 Edward the Confessor.	66 Invasion of England.	77 Penance of Henry IV.
	66 The Norman conquest.	91 St. Bernard born.	81 Constantinople captured.
	67 William the Conqueror.	95 Peter the Hermit.	82 Siege of Rome.
	79 William Rufus.	96 First Crusade.	99 Crusaders take Jerusalem.
1100			
	5 Henry I.	15 St. Bernard founds Claivaux.	6 Henry V emperor.
	35 Stephen.	22 Abelard founds the Paraclete	18 Knights Templars.
	38 Civil war.	41 Interdict laid on France.	33 Count Roger in Sicily.
	54 The Plantagenets.	46 St. Bernard preaches second Crusade.	39 Portugal a kingdom.
	69 Invasion of Ireland.	87 Third Crusade.	46 Roger invades Greece.
	70 Archbishop Becket assassinated.		62 Milan destroyed.
	89 Richard I joins the Crusade.		87 Saladin captures Jerusalem.
	92-94 Capture and release of Richard.		
1200			
	8 Interdict laid on England by Innocent III.	4 Conquest of Normandy.	3 The Crusaders take Constantinople.
	15 The Magna Charta.	8 Albigensian Crusade.	Inquisition instituted.
	62 The Barons' war.	26 St. Louis.	6-27 Career of Genghiz Khan.
	72 Edward I.	48 He leads Seventh Crusade.	28 Sixth Crusade.
	82 Conquest of Wales.	53 Expulsion of the Jews.	36 Tartars invade Russia.
	90 Expulsion of the Jews.	70 Eighth Crusade.	71 Marco Polo.
	95 Parliament organized.	85 Philip IV.	80 Mongols conquer China.
			82 The Sicilian vespers.
1300			
	6 Robert Bruce.	2 Battle of Courtrai.	15 Swiss at Morgarton.
	14 Battle of Bannockburn.	11 Suppression of Knights Templars.	44 Maderia and (45) Canary Islands discovered.
	27 Edward III.	28 Philip VI.	47 Rienzi the Tribune.
	39 Invasion of France.	44 Parliament of Paris.	48-51 The Black Death.
	47 Capture of Calais.	46 Battle of Crecy.	89 Swiss defeat Austrians.
	81 Wat Tyler Insurrection.	56 Battle of Poitiers.	
	84 Wycliffe's Bible completed.	60 Calais ceded to England.	
	88 Scotch invasion.		
1400			
	13 Henry V.	15 Battle of Agincourt.	15 John Huss burnt.
	22 Henry proclaimed King of France.	29 Joan of Arc at Orleans.	20 Hussite wars begin.
	50 Jack Cade insurrection.	31 She is tried by the English and burned at the stake.	53 The Turks take Constantinople.
	55 War of Roses begins.	61 Louis XI.	56 Siege of Belgrade.
	83 Richard III.	68 Louis imprisoned by Charles the Bold.	86 Cape of Good Hope discovered.
	85 Battle of Bosworth. Henry VII.	94 Charles VIII invades Italy.	92 Columbus discovers America.
	97 North America discovered.		Granada taken.

A.D.	England.	France.	Other Countries.
1500	9 Henry VIII. 33 Divorce of Catherine. 35 Church of England founded. 58 Elizabeth. 64 Puritan party founded. 87 Mary Queen of Scots beheaded. 88 The Invincible Armada.	25 Francis I taken prisoner. 58 France recovers Calais. 72 Massacre of St. Bartholomew. 88 Duke of Guise assassinated. 89 Henry IV. 90 Battle of Ivry. 98 Edict of Nantes.	17 Martin Luther. 21 Luther at Diet of Worms. Turks take Belgrade. 22 Circumnavigation of the globe. 27 Rome taken and sacked. 57 Charles V resigns the crown. 71 Battle of Lepanto.
1600	3 Union of England and Scotland. 20 Voyage of the Mayflower. 25 Charles I. 42 Civil war begins. 49 Execution of Charles I. 53 Cromwell Lord Protector. 60 Charles II. 85 James II. 88 The English Revolution.	10 Assassination of Henry IV. 27 Siege of Rochelle. 29 Richelieu prime minister. 43 Louis XIV. Wars of the Fronde. 67 Invasion of the Netherlands. 85 Edict of Nantes revoked. 88 War of Spanish succession.	00 Bruno burned at Rome. 18 Manchus invade China. 31 Battle of Leipsic. 32 Death of Gustavus Adolphus. 48 End of Thirty Years' war. 83 The Turks at Vienna. 89 Peter the Great of Russia. 97 Charles XII of Sweden.
1700	7 First Parliament of Great Britain. 14 George I. 27 George II. 28 Rise of Methodism. 46 Battle of Culloden. 60 George III. 75 American Revolution. 77 Surrender of Burgoyne. 81 Surrender of Cornwallis. 83 Treaty of Peace with the United States. 86 Warren Hastingsimpeached. 93 War with France.	4 Battle of Blenheim. 13 Treaty of Utrecht. 15 Louis XIV dies. 45 Battle of Fontenoy. 59 France loses Canada. 63 Peace of Paris. 74 Louis XVI. 89 States General meets. The Revolution. 93 Execution of Louis XVI—Reign of Terror. 94 Fall of Robespierre. 96 Bonaparte in Italy. 98 In Egypt. 99 Made First Consul.	3 St. Petersburg founded. 9 Charles XII defeated at Pultowa. 17 Turks defeated at Belgrade. 33 France and Poland at war. 40 Frederick the Great. 56 Seven Years' war. 63 War ends; Frederick triumphs. 72 First partition of Poland. 93-95 Later partitions. 98 Battle of the Pyramids. 99 Siege of Acre.
	America.	**Europe.**	**Asia and Africa.**
1800	3 Louisiana Purchase. 4 Lewis and Clark expedition. 7 Fulton's first steamboat. 10 Rebellion in Mexico. 12 War with Great Britain. 14 Burning of Washington. 15 Brazil made a kingdom. Battle of New Orleans. 19 Colombia made a republic. 21 Mexico, Colombia, Venezuela and Ecuador independent.	00 Battles of Marengo and Hohenlinden. 4 Napoleon crowned emperor. 5 Battle of Austerlitz. Nelson at Trafalgar. 8 Wellington in Spain. 9 Battle of Wagram. 12 Napoleon invades Russia. 14 Abdicates—sent to Elba. 15 Battle of Waterloo. Napoleon in St. Helena. 21 Greek war for freedom.	3 War with Tripoli. 15 Suppression of Algerian piracy.

A.D.	America.	Europe.	Asia and Africa.
1800			
	21 Florida purchased from Spain.	28 Greece gains independence.	30 France conquers Algiers.
	22 Brazil a separate empire.	30 Revolt in Paris.	33–37 Migration of the Boers.
	23 The Monroe Doctrine.	31 Warsaw and Prague surrender.	40 Opium war with China.
	24 Argentina gains independence.	37 Victoria becomes queen.	42 British retreat from Cabul—massacre.
	Bolivar frees Peru.	39 Gold found in Australia.	50-75 Russian conquests in Asia.
	32 Nullification in South Carolina.	48 Revolution in France.	52 The Taeping rebellion.
	36 Texas wins independence.	Louis Napoleon president.	53 The opening of Japan.
	44 First telegraph line.	War in Hungary.	57 The Indian mutiny.
	45 Texas annexed.	52 Louis Napoleon made emperor.	France and England invade China.
	46 Oregon added to United States.	54 The Crimean war.	58 India annexed by Great Britain.
	47 Mexican war.	59 War in Italy; Austrian defeat.	58–64 Livingstone explores Africa.
	48 Gold found in California.	61 Victor Emmanuel King of Italy.	60 War with China; Peking taken.
	61 Civil war in United States.	Russian serfs freed.	67 The Abyssinian war.
	63 Emancipation of slaves.	66 Prussian war with Austria.	74-78 Stanley crosses Africa.
	65 Lee surrenders—Lincoln assassinated.	70 Prussian conquest of France. German empire formed; William I emperor.	78 War with Afghanistan.
	67 Alaska purchased.		80-90 Partition of Africa.
	Maximilian shot in Mexico.	71 France a republic.	81 War with Egypt.
	67-71 Dominion of Canada formed.	77 Russian war with Turkey.	Boers win independence.
	71 Great fire in Chicago.	81 Alexander II assassinated.	82 British supremacy.
	72 Alabama claims settled.	88 William II emperor of Germany.	85 The Mahdi war.
	76 Centennial Exposition at Philadelphia.	94 President Carnot assassinated.	Congo Free State founded.
	81 President Garfield assassinated.	97 Diamond Jubilee of Queen Victoria.	86 Gordon killed in Khartoum.
	86 Earthquake at Charleston.	Greek war with Turkey.	87 Stanley's second expedition.
	89 Dom Pedro abdicates; Brazil made a republic.	98 Peace conference at the Hague.	91 China-Japan war.
	93 Columbian Exposition at Chicago.		99 Boer war begins.
	95 Cuban revolt against Spain.		
	98 Hawaii annexed.		
	Spanish-American war.		
	99 Philippine revolt.		
1900			
	00 Partition of Samoa.	00 King Humbert assassinated.	00 The Boxer outbreak in China.
	1 President McKinley assassinated.	1 Edward VII.	Peking occupied by the Allies.
	Roosevelt succeeds as President.	3 King of Servia assassinated.	1 Russia in Manchuria.
	3 Louisiana Purchase Exposition.	5 Revolutionary outbreaks in Russia.	Australian federation.
	5 The Portsmouth Peace conference.	Norway gains independence	4 The Russo-Japan war.
	6 The San Francisco and Valparaiso earthquakes.	6 First Russian Parliament.	5 Peace of Portsmouth.
		Separation of Church and State in France.	Japanese-British alliance.
		7 Second peace conference at Hague.	6 First Persian Parliament.
			Russian Douma meets.

A.D.	United States.	Other Countries.
1789	GEORGE WASHINGTON, President. JOHN ADAMS, Vice-President.	
	89 New York the seat of Government.	89 French Revolution.
	90 Removed to Philadelphia. Indian troubles in Ohio.	
	91 Vermont admitted.	
	92 Kentucky admitted.	
1793	WASHINGTON re-elected President. JOHN ADAMS, Vice-President.	
	94 Wayne defeats the Indians. Whiskey insurrection quelled.	93 Reign of Terror.
	95 Jay's Treaty with England.	
	96 Tennessee admitted.	
1797	JOHN ADAMS, President. THOMAS JEFFERSON, Vice-President.	
	98 Hostilities with France.	
	99 Death of Washington. Alien and Sedition Laws. Treaty with France.	99 Napoleon First Consul.
	1800 Capital removed to Washington.	1800 Battle of Marengo.
1801	THOMAS JEFFERSON, President. AARON BURR, Vice-President.	
	1-5 War with Tripoli.	
	3 Ohio admitted. Louisiana territory purchased from France.	
	4 Lewis and Clark expedition.	4 Napoleon emperor.
1805	THOMAS JEFFERSON, re-elected President. GEORGE CLINTON, Vice-President.	
		5 Battles of Austerlitz and Trafalgar.
	6 Burr's conspiracy.	6 Battle of Jena.
	7 Fulton's steamboat invented. Slave-trade abolished. Embargo act.	7 Peace with Russia and Prussia.
	9 Non-Intercourse Act.	9 Battle of Wagram.
1809	JAMES MADISON, President. GEORGE CLINTON, Vice-President.	
	11 Indian war in West.	
	12 War declared against England. Louisiana admitted. Naval victories.	12 Napoleon at Moscow.
	13 Canada invaded.	

A.D.	United States.	Other Countries.
1813	JAMES MADISON, re-elected President. ELBRIDGE GERRY, Vice-President.	
	13 Perry's victory on Lake Erie. Battle of the Thames. Naval victories.	
	14 McDonough's victory. Washington taken and burned. War with Creek Indians. Treaty of Peace.	14 Napoleon deposed.
	15 Battle of New Orleans. War with Algiers.	15 Battle of Waterloo.
	16 Indiana admitted.	
1817	JAMES MONROE, President. DANIEL TOMPKINS, Vice-President.	
	17 Mississippi admitted.	
	18 Jackson defeats the Seminoles. Illinois admitted.	18 Allies evacuate French territory.
	19 Purchase of Florida. Alabama admitted.	
	20 The Missouri compromise. Maine admitted.	20 Rebellion in Spain.
1821	JAMES MONROE, re-elected President. DANIEL TOMPKINS, Vice-President.	
	21 Missouri admitted. 23 The Monroe Doctrine promulgated. 24 Lafayette visits America. 25 Erie canal completed.	22 Greece strikes for freedom.
1825	JOHN QUINCY ADAMS, President. JOHN C. CALHOUN, Vice-President.	
	26 Death of Jefferson and Adams. Internal improvement. Removal of Creek Indians. Temperance agitation.	26 Spain evacuates Peru.
	28 Protective tariff enacted.	28 Greece independent.
1829	ANDREW JACKSON, President. JOHN C. CALHOUN, Vice-President.	
	30 Great tariff debate.	30 Revolution in France.
	31 The Abolition movement.	Separation of Holland and Belgium.
	32 Nullification in South Carolina. Black Hawk war. Compromise tariff. Veto of United States Bank bill.	32 Reform in England.

A.D.	United States.	Other Countries.
1833	ANDREW JACKSON, re-elected President. MARTIN VAN BUREN, Vice-President. 33 Ruin of United States Bank. Chicago founded. 34 Whig party organized. 35 War with the Seminoles. 36 Arkansas admitted.	34 Slaves emancipated in British colonies.
1837	MARTIN VAN BUREN, President. RICHARD M. JOHNSON, Vice-President. 37 Great business panic. Michigan admitted. 38 Cherokees removed to Indian Territory. Seminole war continues. 40 Sub-Treasury system adopted.	37 Victoria becomes Queen.
1841	WILLIAM HENRY HARRISON, President. JOHN TYLER, Vice-President. 41 President Harrison dies April 4. JOHN TYLER, President. Boundary treaty with Great Britain. 42 The Dorr rebellion in Rhode Island. The Oregon boundary controversy. 43 The Mormon troubles. 44 The first electric telegraph.	41 Capture of Canton by England. 42 British retreat from Cabul; massacre.
1845	JAMES K. POLK, President. GEORGE M. DALLAS, Vice-President. 45 Florida and Texas admitted. 46 Iowa admitted. The Mormons migrate to Great Salt Lake. War declared with Mexico. Matamoras and Monterey captured. New Mexico and California occupied. 47 Battles of Buena Vista, Vera Cruz, Cerro Gordo, Contreras, and Chepultepec. Mexican capital occupied. 48 Treaty of peace. Gold discovered in California. Wisconsin admitted.	46 Famine in Ireland. 48 War in Hungary. France proclaimed a republic; Louis Napoleon president.

A.D.	United States.	Other Countries.
1849	ZACHARY TAYLOR, President. MILLARD FILLMORE, Vice-President.	
	49 The California "gold fever."	49 Conquest of Hungary by Austria.
	Department of the Interior formed.	
	New Mexico Territory organized.	
	50 President Taylor dies July 9.	
	MILLARD FILLMORE, President.	
	California admitted.	
	Utah made a Territory.	
	51 Fugitive Slave Law troubles.	
	The "Underground Railroad."	
	52 Death of Clay and Webster.	52 France an empire. Napoleon III.
1853	FRANKLIN PIERCE, President. WILLIAM R. KING, Vice-President.	
	54 Repeal of Missouri compromise.	53 The Crimean war.
	The struggle of settlers in Kansas.	The opening of Japan.
	Perry's Treaty with Japan.	
	56 Sumner attacked in Senate Chamber.	
	The Republican party organized.	
1857	JAMES BUCHANAN, President. JOHN C. BRECKENRIDGE, Vice-President.	
	57 Business panic begins.	57 The Mutiny in India.
	58 First ocean cable laid.	
	Minnesota admitted.	
	59 Oregon admitted.	59 War in Italy.
	The John Brown raid.	
	60 Secession of South Carolina.	
1861	ABRAHAM LINCOLN, President. HANNIBAL HAMLIN, Vice-President.	
	61 The Gulf States secede.	61 Emancipation of Russian serfs.
	Kansas admitted.	
	Southern confederacy formed.	
	Virginia, North Carolina, Tennessee and Arkansas secede.	
	Battle of Bull Run.	
	62 Capture of Fort Donelson.	62 France invades Mexico.
	Battle of Monitor and Merrimac.	
	Battle of Shiloh.	
	Capture of New Orleans.	
	Siege of Richmond.	
	Second Battle of Bull Run.	
	Battle of Antietam.	
	Battle of Fredericksburg.	
	Battle of Stone River.	

A.D	United States.	Other Countries.
1864	ABRAHAM LINCOLN, President—Continued. HANNIBAL HAMLIN, Vice-President.	
	63 The Emancipation Proclamation.	63 Maximilian elected Emperor of Mexico.
	Battle of Chancellorsville.	
	Battle of Gettysburg.	
	Surrender of Vicksburg.	
	Battle of Chickamauga.	
	Battles of Lookout Mountain and Missionary Ridge.	
	West Virginia admitted.	
	64 Battle of the Wilderness.	64 War in Denmark.
	Battle of Spottsylvania.	
	Battle of Cold Harbor.	
	Siege of Petersburg.	
	Sherman's advance.	
	Capture of Atlanta.	
	Battle of Mobile Bay.	
	Sherman's March to the Sea.	
	Sheridan's Valley campaign.	
	Nevada admitted.	
1865	ABRAHAM LINCOLN, re-elected President. ANDREW JOHNSON, Vice-President.	
	65 Capture of Petersburg.	
	Surrender of Lee and Johnston.	
	Assassination of Lincoln April 14.	
	ANDREW JOHNSON, President.	
	65 Freedmen's Bureau organized.	
	66 Tennessee re-admitted.	
	Atlantic cable laid successfully.	
	67 Nebraska admitted.	67 Prusso-Austrian war.
	Purchase of Alaska.	Dominion of Canada formed.
	Treaty with China.	
	Tenure of Office Act.	
	68 Impeachment of the President.	
	North Carolina, South Carolina, Alabama, Louisiana, Florida and Arkansas re-admitted.	
1869	ULYSSES S. GRANT, President. SCHUYLER COLFAX, Vice-President.	
	69 Pacific Railroad completed.	
	70 Fifteenth Amendment adopted and Virginia, Georgia, Mississippi and Texas re-admitted.	70 Rome capital of United Italy.
	The Weather Bureau established.	Franco-Prussian war.
	71 Great fire in Chicago.	71 German empire founded.
	72 The Alabama claims settled.	French republic re-established.
	Northwestern boundary settled.	

A.D.	United States.	Other Countries.
1873	ULYSSES S. GRANT, President. HENRY WILSON, Vice-President.	
	73 Modoc Indian war. Great business panic.	73 Temporary republic in Spain.
	76 Sioux war; Custer massacre. Centennial World's Fair at Philadelphia. Colorado admitted.	
1877	RUTHERFORD B. HAYES, President. WILLIAM A. WHEELER, Vice-President.	
	77 The Electoral Commission. Railroad strikes and riots.	77 Russo-Turkish war.
	78 Remonetization of silver. Mississippi jetties laid.	
	79 Resumption of specie payments.	
1881	JAMES A. GARFIELD, President. CHESTER A. ARTHUR, Vice-President.	
	81 President Garfield shot by an assassin July 2; dies September 19.	81 Alexander II assassinated.
	CHESTER A. ARTHUR, President.	
	82 Anti-Polygamy bill.	82 British control Egypt.
	83 Civil Service Act. 84 World's Cotton Exposition at New Orleans. 85 Washington Monument completed.	
1885	GROVER CLEVELAND, President. THOMAS A. HENDRICKS, Vice-President.	
	86 The Charleston earthquake. Chicago Anarchist riot.	
	87 Interstate Commerce Act.	
	88 Chinese Exclusion Act.	88 William II emperor of Germany.
1889	BENJAMIN HARRISON, President. LEVI P. MORTON, Vice-President.	
	89 The Johnstown flood. Washington, Montana, North Dakota and South Dakota admitted. The Oklahoma opening.	89 Brazil a republic.
	90 Wyoming and Idaho admitted. Battle with the Sioux; the last Indian battle. The McKinley Tariff.	
	92 The Homestead strike.	91 President of Chili deposed.
1893	GROVER CLEVELAND, President. ADLAI STEVENSON, Vice-President.	
	93 Great business depression. World's Columbian Exposition at Chicago.	

A.D.	United States	Other Countries.
1893	GROVER CLEVELAND, President—Continued. ADLAI STEVENSON, Vice-President.	
	94 The Wilson Tariff. Railroad riots at Chicago.	94 Japan-China war.
	96 Utah admitted. The Venezuela controversy.	96 Italians defeated in Abyssinia.
1897	WILLIAM McKINLEY, President. GARRETT A. HOBART, Vice-President.	
	97 Great Mississippi overflow. Gold discovered in Alaska.	97 Turko-Greek war.
	98 Battleship Maine sunk at Havana. War with Spain declared. Naval victories at Manila Bay and Santiago. Battles before Santiago and surrender of Spanish army.	98 Peace conference at the Hague.
	99 Revolt of the Filipinos.	1900 The Boxer outbreak.
1901	WILLIAM McKINLEY, re-elected President. THEODORE ROOSEVELT, Vice-President. McKinley shot; dies September 14. THEODORE ROOSEVELT, President.	
	1 Philippine Insurrection ends. 2 Civil government in the Philippines. 3 Alaska boundary settled. 4 Louisiana Purchase Exposition.	1 Australian Commonwealth. 2 Conquest of the Transvaal. 4 Russo-Japanese war.
1905	THEODORE ROOSEVELT, President. CHARLES W. FAIRBANKS, Vice-President.	
	5 Portsmouth Peace Conference. Reform movement. 6 San Francisco earthquake. Railroad rate bill passed. 7 Jamestown Ter-centennial Exposition. 8 Battleship fleet encircled the globe.	5 Japan defeats Russia. 7 Emperor of Korea deposed. 8 Emperor and Dowager Empress of China died.
1909	WILLIAM H. TAFT, President. JAMES S. SHERMAN, Vice-President.	9 Discovery of the North Pole. Sultan of Turkey and Shah of Persia deposed.
	10 U. S. census: pop., 91,972,266. Edward D. White, Chief Justice. Democrats regain control of House in Congress.	10 King Edward of Great Britain died. Portugal a Republic.
	11 Fisheries Agreement with Canada.	11 Plague in Manchuria.
	12 Arizona and New Mexico become States. Vice-President Sherman dies. Woodrow Wilson elected President and Thomas R. Marshall Vice-President.	12 China expels Manchus and becomes Republic. Discovery of South Pole by Roald Amundsen. Steamship Titanic sinks off Newfoundland with appalling loss of life. War between the Balkan States and Turkey.

1000. Icelanders reach the American Coast.
1492. Columbus discovers America.
1497. Cabot sails to North America.
1513. Balboa discovers the Pacific.
1528. De Narvaez explores F
1535. Cartier sails up the St.
1541. De Soto discovers the M
1562. The Huguenots settle

NEW ENGLAND COLONIES. MIDDLE

1600

Massachusetts

20. Massachusetts settled at Plymouth.
23. New Hampshire settled.
26. Maine settled.
30. The Puritans settle Boston.

Connecticut

35. Settled at Hartford.
37. Pequot War
38. New Haven settled.

Rhode Island

36. Settled by Roger Williams.

New York

9. Hudson River discovered
14. Dutch trading post on M
23. Colony formed; settleme

Pennsylva

38. Swedes s

41. New Hampshire towns annexed.
43. Union of Colonies.

44. Religious liberty granted.

45. Last Dutch Governor app

51. Maine Colonies annexed.
56. Arrival of the Quakers.

55. The Du

62. Charter granted.

64. The English take New A

65. The Eng

75. King Philip's War.

New Hampshire

79. Made a Royal Province.

73. Retaken by Dutch.
74. Restored to England.

86. Andros, the tyrant governor

86. Re-united to Massachusetts

87. The Charter Oak troubles.

82. William
85. Delawar

89. Andros expelled.
92. Salem witchcraft.

88. Charter lost.
89. Charter government restored.

92. Again separated.

90. Massacre at Schenectady.

92. Charter Government restored.

99. Again united.

1700

2. Indian outrages.

41. Final separation from Massachusetts.

42. Negro plot.

45. Louisburg captured.

54. Albany Convention.

55. Braddo

55. Battle of Lake George.

70. Boston Massacre.

56. Fort Du

58. Fort Ticonderoga attack

REVOL

73. The Boston Tea Party.
75. Battles of Lexington and Bunker Hill.

72. The Gaspee burned.

74. Contine

75. Ticonderoga taken.
76. British take New York.

76. Declara

77. Burgoyne surrenders.

77. British taken.

79. Stony Point

83. New York evacuated.

87. Constitu

88. Constitution ratified.

88. Constitution ratified.
88. Constitution ratified.

90. Constitution ratified.

88. Constitution ratified.

1565. Menendez founds St. Augustine.
1582. Espejo settles Santa Fé.
1584. Raleigh colonizes Roanoke Island.
1604. First French colony in Canada.

IES. SOUTHERN COLONIES.

Virginia

7. Virginia settled at Jamestown.
12. Culture of tobacco began.
19. Negro slavery introduced: first legislature in America.
22. Indian massacre.

nd.
lbany and elsewhere.

Maryland

32. Grant to Lord Baltimore.
34. Settled by Catholics.

elaware.

44. Second massacre.
49. Catholic worship prohibited.

wedish forts.

country.

Carolina

63. Settled at Albemarle.
70. Settled on Ashley River.
80. Charleston founded.
85. Huguenot settlements.
91. Made a Royal Province.
95. Two assemblies, North and South, under one [Governor.

rsey
d at Elizabethtown.
d to the Quakers.

76. Bacon's Rebellion.

bly meets at Salem; code of laws enacted.
Pennsylvania.
s province.

Delaware

a Royal Province under governor of New York.
3. Penn gives it a separate Assembly under the governor of Pennsylvania.

11. Indian massacre.
15. Restored to Lord Baltimore.

No. Carolina | **So. Carolina**

29. Carolina divided into North [lina. and South Caro-

te government granted; governor appointed by King.

Georgia

33. Settled at [Savannah.
42. Invaded by [Spaniards.
52. Made a Royal Colony.

54. Washington in command.
63-67. Mason & Dixon's line surveyed.
65. Patrick Henry defies the King.

NARY WAR.

eets.

73. Committees of Correspondence.

f Trenton.
dence 76. Delaware organized as a separate commonwealth.
f Monmouth.
a.

76. Fort Moultrie attacked.
78. Savannah [taken.
78. Col. Clark's Expedition.
79. Siege of Sa- [vannah.
80. Charleston taken.
81. Battle of Cowpens.

81. Capture of Yorktown.
80. Battle of King's Mountain.
81. Battle of Guilford Court House.

l ratified.
87. Constitution ratified.
tion ratified.

88. Constitution ratified.
88. Constitution ratified.
89. Constitution ratified.
88. Constitution ratified.
88. Constitution [ratified.

Chronological Table
of
Universal History

The First Period of History

B.C.

7000-6000 Nippur, Ur, Eridu and other Sumerian and Accadian cities of ancient Babylonia or Chaldea, founded in the valley of the Euphrates and Tigris.

4500 Foundation of the first Egyptian empire by Mena or Menes; capital, Memphis on the Nile.

4004 The 710th year of the Julian period, when, according to Usher's chronology, published in 1650, the antediluvian patriarchal period of the Hebrews commences: 3950 is the date fixed by Scaliger in 1583; 3761 is the date followed by modern Jews.

4000 Lugal-zaggisi is king of Nippur, Babylonia.

3800 Sargon, an Arabian conqueror, king of Akkad, Babylonia, extends his dominions to the Mediterranean; capital, Agade, in the north of the kingdom.

3700 Cheops, or Khufu, of Egypt, builds the great pyramid at Ghizeh, and his successors, Chephren (Khafra) and Mykerinos (Menkaura), of the fourth dynasty, the other large pyramids.

2950 Fou-hi ascends the throne of China, and with him the recognized history of the empire commences.

2800 Ur Gur and Dungi are kings of Ur or Uru, Babylonia.

2500 Rise of the kingdom of Elam, east of Babylonia; capital, Susa: the Elamites conquered Babylonia.

2400 Thebes is made the capital of Egypt and is governed by the twelfth dynasty, including Amenemhat I., II., III., Usurtersen I., II., III.

2250 Hammurabi, or Khammurabi, becomes king of Shumer, drives out the Elamites, makes Babylon his capital, and formulates his celebrated code of laws.

2234 Celestial observations of the Chaldeans are begun at Babylon.

2205 Yu, emperor of China, called "the Great," succeeds to the throne, which from this period became hereditary in the eldest son. This monarch was the first of the celebrated dynasty of "Hia."

2190 Amenemhat III. of Egypt constructs the irrigation works of Lake Mœris, the Labyrinth palace and obelisks.

2084 The Hyskos, or Shepherd Kings, seize lower Egypt, where they reign about 260 years.

2000 Babylonia is conquered by the Kaldi, from which tribe it gets the name of Chaldea.

Such are the dawnings of history, which are chiefly derived from archæological and biblical records, and from fragments of ancient history, in which many of the events are recorded, though disguised by traditionary legends and mixed with fable. Many of the dates given are mere approximations. Berosus, the Babylonian historian, makes ten

generations between Alorus and Xisuthrus, kings of Chaldea, who reigned before the flood, and these are by some conjectured to correspond with the ten generations of the Scriptures from Adam to Noah. Sanchoniathon of Phœnicia, Manetho the Egyptian, and the Chinese chronologers commence their annals several thousand years prior to the flood.

Although the divisions of time are mostly arbitrary, and vary with different nations, there are many important epochs from which historians have dated events. The principal of these, among the Greeks, was the establishment of the Olympic Games, called the Olympiads, B.C. 884, and among the Romans, the building of Rome, B.C. 753 (ANN. ROM.Æ). The most general division of time in present use is the Birth of Christ (B.C. or A.D., before or after as the event may be). There are also different Ages or historical periods of time, which are mentioned by historians as the Heroic Ages, which were anterior to the Trojan War; the Classical Ages, from the period of Homer and Hesiod to the decline of Roman literature under the emperors; the Middle or Mediæval Age, which embraced the period from the fall of the Roman empire to the revival of learning in Western Europe during the fifteenth century.

The most important and distinctive periods in the historical division of time after the early epochs may be classed under seven chronological eras. The first may be calculated from the most prosperous periods in the history of the Assyrian and Egyptian monarchies, about 2000 B.C., to the legendary epoch of the Trojan War, B.C. 1194-1184; the second from that period to the destruction of the great Babylonian empire by Cyrus, king of Persia, B.C. 538; the third, to the death of Alexander the Great, B.C. 323; the fourth, to the birth of Christ, or the Augustan Age of Rome, and the fifth from that time to the fall of the Roman empire in the fifth century, when classical literature became extinct. The sixth era, from this last period to the Reformation, occupying a space of 1000 years, is called the Mediæval or Feudal Age. After this period modern history extends from the fifteenth century to the present time.

Conforming to these eras, or grand divisions of time in the annals of nations, the following Chronological View of History, compiled from the most authentic sources, has been arranged:

Era I.

From the most prosperous periods in the histories of Assyria and Egypt, 2000 years B.C. to the fabulous date of the siege of Troy, B.C. 1194-1184.

Assyria.

B.C.

2000 Assyria, or Asshur, north and east of Babylonia, is settled in this period by Babylonian colonists. It became independent perhaps about 1500, but made little mark in history until the reign of Tiglath-Pileser II., about 1130.

1300 Tiglath-Adar I. conquers Babylonia.

1115 Tiglath-Pileser I. overruns the country from Bagdad and Babylon to the Mediterranean.

Egypt.

2000 The Hyskos, or Shepherd Kings, reign over Egypt.

1920 Abraham enters Egypt.

1800 Thebes revolts against the rule of the Hyskos.

B.C.

1750 Joseph founds political institutions at Memphis.
1684 King Aahmes (Amosis) drives the Hyskos out of Egypt.
1595 Thothmes III. extends his dominions into Asia.
1575 Moses born in Egypt, is instructed in their learning.
1530 He conducts the Israelites out of Egypt.
1325 Egyptian canicular or heliacal year begins.
1300 Rameses II. the Great, the Sesostris of the Greeks, inaugurates the golden period of Egyptian conquest and power.

China.

2200 The national annals of China at this period begin to assume a more regular and authentic shape, the names of the sovereigns being at the same time reduced to a probable duration. The founder of the Hia dynasty, "Yu the Great," is generally represented as being the leader of the first band of colonists from the west.
1766 Chintang founded the Shang dynasty about 120 years before the Exodus of the Israelites from Egypt. He is said to have paid religious worship to Shangti, the Supreme Ruler of the world. This family ruled over the feudal states of the Chinese empire for a period of 644 years, when Wu-Wang dethroned them and founded the illustrious Chau dynasty. During all this early period China was divided into a large number of feudal states, like those of mediæval Europe.

Phœnicia.

2000 The Phœnicians are celebrated as the most skilful and ancient navigators; Sidon being their principal early city. Their traffic by sea is large and important.
1252 Tyre, the rival city of Sidon, built; for centuries afterwards the emporium of the world.
1200 The north coast of Africa and Sicily colonized from Tyre. Phœnicians extend navigation beyond the Mediterranean; importing silver from Tarshish (Spain), tin from England, electrum from Holland and Germany. The products of the interior of Asia and Africa are brought by caravans to the Mediterranean coast, as spices, drugs, gold, ivory, etc.

Judæa.

2000 Judæa was the land of Canaan, or the Palestine of Scriptural history, where dwelt the Philistines, Amalekites, etc.
1985 Abraham arrives in Canaan, from Haran, which begins the 430 years of sojourning. From Abraham and his followers descended the Israelites and other tribes.
1750 Joseph, sold by his brethren to the Egyptians, grew in power there, and obtained for the Hebrews a settlement.
1575 Moses born in Egypt, is adopted by Pharaoh's daughter and instructed in their learning.
1530 Leads the oppressed Israelites out of Egypt, through the Red Sea, and delivers to them, at Mount Sinai, the Ten Commandments.
1515 After sojourning 40 years in the wilderness, the Israelites are led by Joshua into the land of Canaan, and settle in Palestine, "the promised land." The period of the Sabbatical year commences. The Levites are divided amongst the twelve tribes as priests.

B.C.

Greece.

1493 Cadmus, from Phœnicia, introduces alphabetical characters, and founds Thebes.
1485 Danaus, from Egypt, with his fifty daughters, lands at Rhodes in the first ship which appeared in Greece.
1356 Eleusinian Mysteries founded.
1300 Olympic and other games instituted about this period.
1225 Argonautic expedition. Jason, Theseus and Orpheus sail from Thrace to Colchis to fetch the Golden Fleece.
1194 The legendary Heráclidæ make themselves masters of Peloponnesus, from which they are soon compelled to retire. The Trojan war commences.
1184 Destruction of Troy.

The dates here given are those assigned by the Greek histriographers to the events mentioned. Various other such dates might have been given, but modern research finds no evidence for any of these dates, while several of the events mentioned are mere legends. The same must be said of the dates above given under the head of Judæa, these being simply estimates made by various writers. The true dates are unknown.

Italy.

2000 First inhabited by various uncivilized tribes.
1500 The Ausonians in middle and lower Italy; and the Umbri, descendants of the Gauls. Italy is colonized from Greece and Thessaly.
1400 The Tyrrheni, from Lydia, inhabit Etruria and diffuse civilization.
1200 A colony from Arcadia, under Evander, peoples Latium, the country of the Latins. This event is legendary, and the dates given are mere approximations.

Era II.

From the Siege of Troy, assumed date, B.C. 1194-1184, to the destruction of the Babylonian Empire by Cyrus the Great, King of Persia, B.C. 545-538; during which period Judæa reached its most prosperous condition.

Assyria.

911 Rimman-nirani II. and (883-858) his grandson, Assur-natsir-pal, by a long series of cruel wars re-establish the former dominion of Assyria.
858 Shalmaneser establishes the power of Assyria over all Western Asia.
763 A solar eclipse observed which forms the pivotal point in Assyrian chronology.
745 Tiglath-Pileser II. introduces a centralized system of government and (729) subdues Babylonia.
720 Sargon captures Samaria and carries away the "Ten Tribes of Israel."
710 He takes Babylon and is made its king.
700 Sennacherib makes war on Hezekiah, king of Judæa.
681 Esarhaddon invades and conquers Egypt.
667 Assur-bani-pal (Sardanapalus) continues the era of conquest; but a great revolt breaks out.

B.C.

606 Nineveh taken by the Medes, and the Assyrian empire ends. Saracus (Sardanapalus II.) said to have burned himself, with his wives and treasures, in his palace. This incident now discredited.

Babylonia.

606 Nabopolassar, of Babylon, joins the King of Media in the overthrow of Assyria, and the old Kingdom of Babylonia is restored.

600 Nebuchadnezzar conquers Phœnicia, Egypt and Judæa; takes Jerusalem; carries the Jews into captivity; and founds a great Babylonian empire, from the Tigris to the Nile. He builds the celebrated "Hanging Gardens."

546 Cyrus the Great, of Persia, overcomes Crœsus, the rich king of Lydia.

538 Takes the city of Babylon; lays the foundation of the great Persian empire on the ruins of the Assyrian monarchy and gains the dominion of all Asia.

Egypt.

1044 The kingdom of Egypt is divided into smaller states: Bubastis, Sais, etc.

1000 Internal distraction.

900 Sabacus, king of Ethiopia, makes himself master of Egypt.

681 Assyria conquers Egypt.

617 Greeks introduce civilization. Psammetichus first allowed their intercourses.

610 Pharaoh Necho attempted to open a canal from the Nile to the Red Sea.

572 By the conquest of Nebuchadnezzar, Egypt is made part of the Babylonian empire.

Phœnicia.

1000 Hiram, king of Tyre and Sidon, sends architects into Palestine.

900 The golden age of Phœnicia. Dido, from Phœnicia, is the legendary founder of the city of Carthage, which becomes the most important colony of the Phœnicians. Tyre and Sidon the richest cities in the world.

850 Phœnicia conquered by Assyria.

608 Conquered by Egypt.

585 Sidon is conquered and Tyre utterly destroyed, after a siege of thirteen years, by Nebuchadnezzar. The inhabitants retired during the siege, and built the island city of Tyre, two miles from the shore, which rivaled ancient Tyre until destroyed by Alexander the Great.

Judæa.

1150 The Philistines make war upon the Israelites.

1067 Samuel selects Saul for king.

1055 Afterwards anoints David as king, who widely extends the power of the kingdom.

1000 Golden period of the Jewish monarchy. Solomon finishes the Temple of Jerusalem; writes "Proverbs," "Song of Solomon," etc.

975 Internal dissension, and the division of Palestine into two kingdoms —Israel and Judah; Jews denominated from the latter.

720 Israelites and Jews dwell in discord. Israel destroyed by the Assyrian king, Sargon, who carries the ten tribes into captivity.

B.C.

586 Judæa and Jerusalem destroyed; the Babylonish captivity under Nebuchadnezzar.

China.

1122 Wu-Wang, the prince of Chau, was founder of the illustrious dynasty which bore his name. This sovereign, and his brother, Chau, as well as his father, Wang-wang, are among the most distinguished men of Chinese antiquity, and have been celebrated by their biographer, Confucius, for their erudition and integrity. This dynasty continued for 873 years, under thirty-five monarchs, down to B.C. 249, when the family was exterminated by Chwang-siang-wang, the founder of the Tsin dynasty.

1112 The compass is said to have been invented about this time by the preceding monarch.

600 About this period Fohi introduced Buddhism into China.

551 Confucius, or Cong-fu-tse, the celebrated Chinese philosopher, was born. His works have been held in the greatest esteem by the Chinese of all ages as treasures of the purest morality. His descendants to this day are mandarins of the highest button.

Greece.

1104 The Heraclidæ, as legend states, re-enter the Peloponnesus, and take possession of Sparta and other parts of Greece.

1050 Grecian republics formed and colonies founded on the western coast of Asia Minor about this period.

1000 Homer wrote his poems about this date.

850 Lycurgus gives laws to Sparta about this date.

800 Hesiod wrote at this period.

776 Olympic Games become a national festival and the basis of Greek chronology.—760 The Ephori at Sparta.

754 Decennial Archons at Athens.—681 Become annual.

743-724 First Messenian and Spartan war.

685-668 Sparta the most powerful state in Greece. Second Messenian war.

624 Draco gives sanguinary laws at Athens: punishes every fault with death.

600 Thales of Miletus acquires, from the Egyptian priests at Memphis, a knowledge of geometry, astronomy and philosophy; and he calculates eclipses. His scholar, Anaximander, invented globes, dials and the signs of the Zodiac.

594 Solon, archon and lawgiver in Athens, the most cultivated of the Grecian states. Pythian games instituted.

581 Isthmian games, in honor of Neptune.

560 Pisistratus makes himself master of Athens.

Italy and Rome.

1180 In the legend of Troy, the Trojans, under Æneas, settle in Italy at this period. Their arrival forms the subject of Virgil's Æneid.

753 Rome, a colony from Alba Longa, is founded by Romulus, the first king.

753-509 Traditional period of kingly rule.

Era III.

From the establishment of the Persian Empire under Cyrus, B.C. 538, to the death of Alexander the Great, B.C. 323; which forms the most important period in the history of Persia, and the Golden Era of Greece.

B.C.

Egypt.

525 Cambyses, king of Persia, subjugates Egypt and annexes it to the Persian empire.
400 Frequent revolts, assisted by the Greeks.
340 Second Persian conquest.
332 Conquered by Alexander the Great, and made part of the Macedonian empire.
331 The city of Alexandria built; becomes the emporium of commerce, on the destruction of Tyre by Alexander.

Persia.

525 Cambyses, the son of Cyrus, effects the conquest of Egypt.
508 Darius reduces all India to subjection. The dominion of Persia is thus extended from the Indus to the Nile.
490 The Persians, under the generals of Darius, attempt to conquer Greece, but are beaten at Marathon.
480 Xerxes commands a second expedition of above 1,000,000 men and a fleet of 2,000 ships; the latter is destroyed by the sea fight at Salamis, when Xerxes and his army take to flight.
401 Cyrus the Younger revolts against his brother, Artaxerxes II. The retreat of the 10,000 Greeks under Xenophon.
334-331 Babylon and the principal cities of the Persian empire are conquered by Alexander the Great.
330 Death of Darius III., which terminates the Persian empire. In 218 A.D. a new empire, governed by the dynasty of the Sassanides, was formed by Artaxerxes, son of Susson; and for several centuries much of its old importance was restored.

Judæa.

536 Cyrus issues an edict in favor of the Jews and allows them to return to Palestine.—519 Which is confirmed by Darius.
515 Building of the second temple finished under Darius.
430 Period of the Old Testament ends.

Greece and Macedon.

526 First public library at Athens.
508 Pisistratidæ abandon Attica.
500 The Greeks of Asia Minor league with the Athenians, whence the Persian War.
490 Army of Darius beaten at Marathon by Miltiades.
481 The second expedition under Xerxes.
480 Defence of Thermopylæ by Leonidas, and naval victory of Salamis by Themistocles.
479 Remnant of the army of Xerxes dispersed at Platææ.
470-431 The most flourishing area of Greece, for about forty years. The age of Pericles, Æschylus, Sophocles, Thucydides, Herodotus, Phidias, etc. The Grecian states grow discordant and lose their freedom. The defeated Messenians quit the Peloponnesus. Rivalry between Athens and Sparta, with which this era ends.

B.C.

404 This war ends with the capture of Athens and the triumph of Sparta over Athenian power.

399 Socrates put to death.

372 Epaminondas, the Theban, gains the victory of Leuctra over the Spartans.

362 Battle of Mantinæa, in which Epaminondas again defeats the Spartans.

355 Sacred war against the Phœnicians. Demosthenes. Sacred war against the Locrians excited by Philip of Macedon.

338 Philip gains the battle of Cheronæa and the sovereignty of Greece. He becomes the generalissimo of the Grecians against the Persians.

336 Alexander the Great succeeds his father, Philip.

335 Thebes taken and destroyed by Alexander.

334 He causes himself to be declared generalissimo of the Greeks against the Persians in a diet assembled at Corinth. Alexander sets out for Persia.

333 Battle of the Granicus, followed with the conquest of almost all Asia Minor. Battle of Issus.

332 Alexander makes himself master of Tyre, after a siege of seven months.

331 Alexander subdues Egypt and builds the city of Alexandria. Defeats the Persians at Arbela and captures Babylon, Susa and Persepolis.

329 Alexander, after having subdued the Sogdians and Bactrians, builds a city upon the Jaxartes, to which he gives his name.

327 His entrance into India. He gains a great victory over Porus on the banks of the Hydaspes.

323 Alexander, on his return from his conquests, dies at Babylon, at the age of 33. Alexander's generals divide the provinces among themselves. From this time commences the era of the empire of the Ptolemies in Egypt.

[During this period all the arts were carried to a very high state of perfection. Though the Eastern nations had raised magnificent and stupendous structures, the Greeks were the first people in the world who, in their works of architecture, added beauty to magnificence and elegance to grandeur. The temples of Jupiter and Olympus and the Ephesian Diana are the first monuments of taste. Phidias, the Athenian, who died B.C. 432, is the first sculptor whose works have become immortal. Zeuxis, Parrhasius and Timanthes, during the same age, first discovered the power of the pencil and all the magic of painting. Literary composition, too, in its various branches, reached a noble degree of perfection.]

Carthage.

869 The city of Carthage was originally, if we can credit legend, founded by Queen Dido, a Tyrian princess, although it does not come into historical notice before the time of the Persian invasion, B.C. 500, when Darius courted its alliance on meditating the conquest of Greece. Carthage may be said to have risen into opulence from the period of the destruction of Tyre and Sidon, when she carried on the chief trade of the Mediterranean. The Carthaginians people Ivica, conquer Corsica and colonize Italy.

B.C.

509 First alliance with Rome.

481 Hamilcar attacks the Greeks in Sicily, but is beaten by Gelon

445 Free themselves from tribute to the Africans.

340 Their wars with Sicily generally successful, till defeated by Timoleon.

Rome.

509 After having been governed by seven kings in succession, Tarquin is expelled, and Rome is afterwards governed by Consuls, or other republican magistrates.

451 Laws of the Twelve Tables framed.

390 Rome is taken by the Gauls. The history of Rome, however, for the first four centuries of its existence, is comparatively unknown and is confined chiefly to domestic events or to petty wars with neighboring states. We have at least inferential evidence that it was of little account in the time of Alexander the Great, in the fact that Aristotle, though he wrote largely on the Carthaginian government and noticed its connection with the Etruscans, does not even mention Rome. The authenticity of the early part of Roman history is doubtful. It is allowed that for the first five centuries after the foundation of the city there were no historians. The first is Fabius Pictor, who lived during the second Punic war. Livy says that almost all the ancient records were destroyed when Rome was taken by the Gauls.

Era IV.

From the death of Alexander the Great, B.C. 323, to the reign of Augustus Cæsar, or the birth of Christ; which forms the most brilliant period in the victorious career of Rome.

Egypt.

321 On the death of Alexander, and the division of the Macedonian empire, Ptolemy Soter obtains Egypt.

285 Alexandria the capital and seat of learning.

285 Ptolemy Philadelphus, according to tradition, employs 72 interpreters to translate the Old Testament into the Greek language, called the "Septuagint Version."

283 Alexandrian Library founded. The first three of the Ptolemies extend commerce and cultivate the Grecian arts and sciences.

247 Ptolemy III. succeeds. The golden period of the Ptolemies.

221 Ptolemy IV. succeeds. The kingdom declines.

190 Asia Minor conquered by Rome.

162 Romans divide the monarchy.

82 Lathyrus ruins Thebes for the purpose of destroying the rebels.

48 Disputed succession of Ptolemy XIII. determined by Octavius Cæsar in favor of Cleopatra, who gains the affections of Marc Antony.

31 Antony and Cleopatra war with Octavius; are defeated at Actium.

30 Cleopatra and Marc Antony destroy themselves, and Egypt becomes a Roman province.

B.C.

Syria.

301 On the division of the Macedonian empire, the second Assyrian monarchy, which had been successively included in the Babylonian, Persian and Macedonian kingdoms, was possessed by Antigonus, when Seleucus Nicator, ruler of Eastern Asia, defeated Antigonus at Ipsus and conquered Syria, which afterwards remained under the Seleuci; and this formed the era of the Seleucidæ.

290 Seleucus builds forty cities in Asia.

190 Antiochus the Great, who had given refuge to Hannibal and made war against Rome, was defeated at Magnesia.

170 Antiochus Epiphanes makes himself master of all Egypt, and marches afterwards to Jerusalem, where he cruelly persecuted the Jews.

65 Antiochus Asiaticus deposed by Pompey; when Syria became a Roman province.

Judæa.

285 Ptolemy Philadelphus conquers Palestine, and carries many thousand Jews into Egypt.

168 Jerusalem burned by Antiochus Epiphanes.

31 Herod appointed king of the Jews by Augustus.

19 Rebuilds the Temple.

China.

249 The Chau dynasty was overthrown by Tsin Chi Hoang-ti, a prince of Tsin, who established the dynasty which bears his name. He effected several important reforms in the state, and divided the country into thirty-six provinces, over which he placed governors.

221 This prince assumed the name of Hwang-ti, or Emperor.

This monarch was one of those extraordinary men who turn the course of events and give an impress to subsequent ages. He made progress through his dominions with a splendor hitherto unknown, built public edifices, opened roads and canals to facilitate intercourse and trade between the provinces, and repressed the incursions of the northern tribes, driving them into the wilds of Mongolia. In order to keep these invaders out effectually, Hwang-ti conceived the idea of extending and uniting the walls which the princes of some of the northern states had erected on their frontier into one grand wall, stretching across the empire from the sea to the desert. This gigantic undertaking was completed in ten years, and it has made the name of Hwang-ti celebrated throughout the world. Irritated by the literati, he sought to destroy all books, except those dealing with science and industry, written anterior to his own reign. Orders were issued that every such book should be burned, and especially the writings of Confucius and Mencius, upon the feudal states of Chau, whose remembrance he wished to blot out. Not only were the books sought after to be destroyed, but nearly five hundred literati were buried alive, in order that no one might remain to reproach, in their writings, the First Emperor with having committed so barbarous and insane an act.

B.C.

202 The dynasty of Tsin was overthrown by Liu Pang, a prince of Han, who was the founder of the illustrious house of that name. His accession is regarded as the commencement of "Modern Chinese" history. His family swayed the Middle Kingdom, under twenty-six monarchs, till the year A.D. 221. This is considered as the most brilliant period of Chinese history. The number and character of the heroes and literati of China, it is affirmed, were not surpassed even by those of the western world, which was then in the plenitude of intellectual greatness.

Macedon and Greece.

323 These provinces, on the division of the Macedonian empire, were obtained by Antipater. They continued to be convulsed by civil wars, which the victorious Romans turned to their own advantage.

286 Pyrrhus expelled from Macedon by Lysimachus.

281 Lysimachus is defeated and killed by Seleucus.

251 Aratus persuades the people of Sicyon to join the Achæan league.

188 Sparta was obliged to renounce the Institutions of Lycurgus.

168 Macedon, by the defeat of Perseus at the battle of Pydna, was reduced to a Roman province.

146 Also the Grecian states, the Roman general Mummius defeating the Achæans and destroying Corinth.

86 Sylla defeats Mithradates in Greece, conquers Athens, and sends its valuable libraries to Rome.

Carthage.

263 Beginning of the first Punic war with the Romans, which lasts twenty-four years.

259 Sea fight between the Romans and Carthaginians near the coast of Mylæ.

255 Xanthippus, the Spartan, aids the Carthaginians and takes prisoner the Roman general Regulus.

249 Regulus is sent to Rome to propose the exchange of prisoners. At his return the Carthaginians put him to death with torture for advising against them.

241 Defeat of the Carthaginians near the Island of Ægates, followed by a treaty that ends the first Punic war.

237 The Carthaginians give up Sardinia to the Romans and engage to pay them 1,200 talents.

229 Hamilcar, fighting against Rome, is killed in Spain.

221 Hannibal, his son, made general of the army.

219 He lays siege to Saguntum, and the second Punic war commences.

218 He crosses the Pyrennees and Alps, conquers the intermediate territory, and arrives in Italy with 26,000 men. He beats two Roman armies.

217 Conquers a third army.

216 The Romans lose the battle of Cannæ.

215-205 Failing to receive succor from Carthage, Hannibal sustained several defeats.

202 The Romans effecting a landing in Africa, Hannibal was compelled to return; but was overthrown by Scipio at Zama.

183 Hannibal, after fleeing to Asia, poisons himself at Eithynia.

B.C.

149 Carthage resists the encroachments of Masinissa, the Numidian king and ally of Rome, which the latter resents; hence the third Punic war.

146 The Carthaginians pulled down their houses to build ships with the timber, and the women gave their hair for bow-strings. Carthage was taken and destroyed by Scipio the Younger, and its inhabitants exterminated by fire and sword, when the whole territory became Roman.

Pontus.

104 The kingdom of Pontus, situated in Asia Minor, was founded by Mithridates I. (having been previously subject to the Persians).

88 And is famous for the celebrated contest carried on by Mithridates VI., commonly called The Great, against all the powers of the Romans.

63 When he was eventually subdued by Pompey and his dominions reduced to a Roman province.

Rome.

280 The Romans, hitherto unknown in the great history of nations, having subdued all lower and upper Italy, gradually emerge from their national obscurity; and while the other great empires of antiquity were losing strength, Rome assumed the most prominent place in the scale of nations. The wars with Pyrrhus, king of Eripus, and with the Tarentines, first brought the Romans into general notice.

274 Pyrrhus's expulsion from Italy, made the Roman name known and respected in Greece, Sicily and Africa.

263 The first Punic war begins, and continues for twenty-four years.

259 The Carthaginian fleet defeated by Duilius.

255 Regulus defeated by Xanthippus.

240 Plays first acted at Rome, being those of Livius Andronicus.

235 The Temple of Janus shut at Rome the first time since Numa.

226 The war between Cleomenes and Aratus begins, and continues for several years.

225 The Romans first cross the Po, pursuing the Gauls, who had entered Italy. They send a famous embassy to impart to the Greeks the treaty they had lately concluded with the Illyrians. The Corinthians declare, by a public decree, that they shall be admitted to a share in the celebration of the Isthmian games. The Athenians also grant them the freedom of Athens.

218 The second Punic war begins, and continues seventeen years.

217 The battle of Thrasymenus, and next year that of Cannæ.

214 The Romans begin the auxiliary war against Philip in Epirus, which is continued by intervals for fourteen years.

212 Syracuse taken by Marcellus, after a siege of three years. Archimedes slain.

202 The battle of Zama, when Hannibal is defeated by Scipio.

189 The luxuries of Asia brought to Rome.

179 Numa's books found in a stone coffin at Rome.

159 Time measured out at Rome by a water machine, invented by Scipio Nasica, 134 years after the introduction of sun-dials.

149 The third Punic war begins.

B.C.

148 The Romans make war against the Achæans, which is finished the next year by Mummius.
147 Carthage is destroyed by Scipio, and Corinth by Mummius.
141 The war of Numantia begins, and continues for eight years.
138 The Roman army, under Mancinus, is defeated by the Numantines.
136 The famous embassy of Scipio, Metellus, Mummius and Panætius into Egypt, Syria and Greece.
133 Numantia taken. Pergamus annexed to the Roman empire.
123 The Romans make war against the pirates of the Baleares.
121 Caius Gracchus killed.
118 Dalmatia conquered by Metellus.
111 The Jugurthin war begins, and continues for five years.
109 The Teutones and Cimbri begin the war against Rome, and continue it for eight years.
105 The Teutones defeat 80,000 Romans on the banks of the Rhone.
102 The Teutones defeated by Marius at Aquæ Sextiæ.
101 The Cimbri defeated by Marius and Catulus.
91 The Social War begins, and continues three years, till finished by Sylla.
88 The Mithridatic war, which lasts twenty-six years.
88 The civil wars of Marius and Sylla begin, and continue six years.
82 Young Marius is defeated by Sylla, who is made dictator.
78 The death of Sylla.
73 The servile war, under Spartacus, begins.
66 Mithridates conquered by Pompey in a night battle.
63 Catiline's conspiracy detected by Cicero. Mithridates kills himself.
59 The first triumvirate, in the persons of Julius Cæsar, Pompey and Crassus.
58 Cicero banished from Rome, and recalled the next year.
55 Cæsar passes the Rhine, defeats the Germans and invades Britain.
50 Civil war between Cæsar and Pompey.
48 The battle of Pharsalia.
46 The war of Africa. Cato kills himself. Calendar corrected by Cæsar with the help of the astronomer Sosigenes.
44 Cæsar slain by Republican conspirators and patriots.
43 The second triumvirate, in Octavius, Antony and Lepidus. Cicero put to death.
42 The battle of Philippi; defeat and death of Brutus and Cassius; end of the republic.
36 Pompey the Younger defeated in Sicily by Octavius.
31 The battle of Actium and defeat of Antony.
30 Egypt reduced into a Roman province.
27 The title of Augustus given to Octavius.
25 The Egyptians adopt the Julian year. About this time flourished Virgil, Pollio, Mæcenas, Strabo, Horace, Propertius, Livy, Tibulus, Ovid, Vitruvius, etc.
17 The secular games celebrated at Rome.
15 The Rhæti and Vindelici defeated by Drusus.
12 The Pannonians conquered by Tiberius.
11 Some of the German nations conquered by Drusus.

[Birth of Christ, according to the common era, 4714 of the Julian period, and A.R. 753.]

B.C.

[Notwithstanding the intestine contentions and civil wars to which Rome had been subjected, she had now arrived at the zenith of political power and national greatness, and had succeeded in completing the destruction of all the kings who had presumed to oppose her. Indeed, there never was a time when Rome, or any city in the world, was so magnificent, so populous and so refined. The empire was now brought very near to its utmost extent. In Europe it included Italy, Gaul, Spain, Greece, Illyricum, Pannonia, Britain and some part of Germany; in Asia, all those provinces which went under the name of Asia Minor, together with Armenia, Syria, Judæa, Mesopotamia and Media; in Africa, almost all those parts of it which were then supposed habitable, namely, Egypt, Numidia, Mauritania and Libya; the whole of their empire comprising an extent of between three and four thousand miles in length and half as much in breadth. The number of the citizens amounted to 4,063,000; and the improvements in the polite learning of that age have never been surpassed.]

Spain and Portugal.

230 The Celtic, or original, inhabitants conquered by the Carthaginians.
200 Becomes a Roman province (Hispania.)

Era V.

From the birth of Christ (commonly called the Augustan Age), to the fall of the Roman empire, A.D. 476-493; when the western world is overrun by the Goths, Vandals, Huns, etc.

A.D.

China.

65 In the reign of Ming-ti a deputation was sent westward to India, who on their return established the doctrines of Buddha as one of the religious beliefs of the Chinese. Under this monarch and his successors, Chang-ti and Hoti, the great conqueror Panchow penetrated with his army as far westward as the Caspian Sea, dividing and overcoming the various tribes on the confines of the desert and at the foot of the Celestial Mountains, and extending the limits of the monarchy in that direction much farther than they are at present.
166 The Romans send an embassy to China, to establish a trade in silk.
284 The Romans send a second embassy to China.
420 The Song dynasty established by Lieouyu, a conquering general.

Rome.

14 Death of Augustus. At this period the history of the whole world is centered in Imperial Rome. Under Augustus she continued to enjoy universal peace and prosperity; and magnificent temples, palaces, theatres and baths, adorned with innumerable statues of brass and sculptured marble, were everywhere erected, the ruins of which still remain. But under the reigns of the succeeding emperors the greatness of Rome began gradually to decline, and luxury and vice to usurp the place of that patriotism and virtue on which her political prosperity had been originally founded. Most of the successors of Augustus were weak and wicked men.

A.D.

37 Tiberius, under whose reign Christ was crucified, dies.
41 Caligula, imbecile and half insane, murdered.
54 Claudius poisoned by Agrippina.
64 Nero persecutes the Christians.
68 Kills himself.
69 Galba, penurious, slain.
69 Otho, prodigal, stabs himself.
69 Vitellius, debauched, slain.
69 Vespasian succeeds as emperor.
70 Titus, surnamed "the good," destroys Jerusalem.
81 Domitian, last of the "Twelve Cæsars." Julius Agricola conquers in Britain as far as the Grampian Hills.
96 Nerva succeeds.
98 Trajan succeeds.

From 96 to 180 virtuous emperors reigned. Trajan conquers Dacia.

120 Hadrian builds the wall in Britain from Carlisle to Newcastle.
131 Revolt and exile of the Jews.
161 Antonius Pius dies.
180 Marcus Aurelius dies. These eighty-four years were the most happy of the Roman monarchy. From 180 the emperors were chiefly licentious men.
192 Commodus dies; soldiers dispose of the throne.
208 Severus, military government; conquest in Britain.
211 Builds the Picts' wall.
217 Caracalla murdered.
222 Heliogabalus detested and slain.
235 Alexander Severus slain.
235 Maximin (a herdsman) becomes emperor.
248 Millenial duration of Rome.
260 Valerian is taken and put to death by the Persians.
268 The Germans enter Italy, the Persians Asia Minor. Odenatus and Zenobia revolt.
275 Aurelian subdues Zenobia; gives up Dacia to the barbarians.
286 Diocletian takes Maximinian as his colleague.
292 Each emperor chooses his coadjutor; Galerius and Constantius. The empire is divided into four parts.
304 Diocletian and Maximinian resign. Six emperors reign. Partition of the empire between Constantine and Lucinius.
313 Christianity made the religion of the state.
323 Constantine becomes sole emperor; transfers the seat of empire from Rome to Byzantium (Constantinople).
361 Julian the apostate reigns.
395 The great migration of nations. The Goths commit great ravages. The empire is divided into Eastern and Western, with Rome and Constantinople as their respective capitals.
410 Alaric, the Visigoth, besieges and takes Rome.
455 Genseric, the Vandal, in Rome.
476 Romulus Augustulus abdicates.
476-493 The western empire of Rome is dissolved, and Odoacer, leader of the Heruli, reigns.

[During the last century or two of the above period the western world is overrun by barbarous military adventurers, who endeavor

A.D.

to possess themselves of new settlements. Thus Europe becomes, as it were, peopled with a new race, when new governments, manners and languages arise, and ancient learning becomes extinct. The Roman empire had lost its force. It contained within itself the seeds of dissolution, and the violent irruptions of the Goths, Vandals, Huns and other barbarians hastened its destruction. These fierce tribes, who came to take vengeance on the empire, either inhabited the various parts of Germany, which had never been subdued by the Romans, or were scattered over the vast countries of the north of Europe and the northwest of Asia which are now inhabited by the Danes, the Swedes, the Poles, the subjects of the Russian empire and the Tartars. Wherever the barbarians marched their route was marked with blood. They ravaged or destroyed all around them. Contemporary authors who beheld that scene of desolation are at a loss for expressions to describe its horrors. "The Scourge of God," "The Destroyer of Nations," are the epithets by which they distinguish the most noted of the ruthless leaders. In this great migration of military barbarians the following appear the principal nations:

Goths,

180 A people residing on the Vistula and Oder, first took possession of the coast of the Black Sea.
249 They crossed the Danube; defeated and killed the emperor Decius.
274 The emperor Aurelian gave up Dacia to them.
360 They extended their conquests east and west, dividing themselves into Ostro (or East) Goths, on the Black Sea, and Visi (or West) Goths, in Dacia and Podolia.

The Ostrogoths,

375 Who had dislodged the Vandals, expelled by the Huns and Alani.
454 They are subdued by the Huns.
489 Possess themselves of Pannonia; obtain annual tribute from the Greek emperors; enter Italy.
555 And reign there till subdued by Justinian.

The Visigoths,

375 In Dacia and Podolia, are dislodged by the Ostrogoths, cross the Danube, and put themselves under Roman protection in Thrace.
378 Oppressed by the Roman governors, they revolt, defeat the Roman army and kill the emperor Valens.
395 Under Alaric they plunder the Peloponnesus.
401 Invade and plunder Italy.
409 Rome is taken and plundered.
418 Proceed into Gaul and Spain, and found the kingdom of the Visigoths (Toulouse).
470 Encroach on the Suevi in Gallicia (Spain); extend their territory on the Rhone and Loire.
474 Receive written law.

A.D.

Teutones or Germans.

335 The ancient names of the German tribes were lost at the end of the second century. In the third century we find Franks upon the left bank of the Rhine (Swabia); the most dangerous enemies of the Romans. The Saxons and Frisii (mariners) in the North. In the reign of the emperor Theodosius, when the north and north-eastern nations pressed forward, the Germans crossed the Rhine, and drove the Romans out of Spain, France, and Portugal.

Alani.

375 Inhabitants of Mount Caucasus were partly subjugated by the Huns.
407 One division proceeded towards the West, dislodging the Vandals and Suevi, and advancing with them, crossed the Rhine into Gallia and Spain.
412 Were weakened by the Visigoths (who followed them), and disappeared amongst the Vandals, who passed from Spain into Africa.

Huns.

The Huns originally inhabited Asia, and led a wandering life. Were driven out of Mongolia by the Chinese; crossed the Volga and the Don, partly subjugated the Alani, and united with them on the Don; dislodging the Goths (who had come down from the coasts of the Black Sea and the Baltic).
395 Extending their sway as far as the Danube, which they crossed, they entered Pannonia and Mœsia.
433-453 Under Attila, called "The Scourge of God," are victorious in the east.
447 Render Constantinople tributary, and make devastating excursions through Germany and France.
451 Are defeated at Chalons-sur-Marne. At the death of Attila their empire falls, and they disappear; when the released German nations redouble their attack on the Western Roman empire.

Vandals.

376 A tribe of Silesia and Bohemia bordering on the Suevi, are pressed forward by the Alani to the West.
407 Combine with the Suevi and Alani; vanquish the Franks; cross the Rhine, and proceed through Gallia into Spain.
411 Subjugate the Alani; harassed by the Visigoths.
429 Pass into Africa.
[The kingdom of the Vandals was eventually destroyed by the Grecian imperial army under Belisarius.]

Sclavonians.

The Sclavonian nations, from the East, wander into the northeastern parts of Germany, which had been depopulated by the great migration of nations, and occupy the whole eastern territory from the mouth of the Oder to the Adriatic Gulf.
496 Seize Poland, Bohemia, etc.

Franks.

287 The Celts, or Franks, inhabit the left bank of the Rhine.
407 The Salians (chief tribe of the Franks) in Belgium. The Franks, being defeated by the Vandals,

A.D.

482 Are confined to the mouth of the Rhine (Belgic Gulf); when they are found on the Maine. First monarchy of the Franks (giving name to France) from the Rhine to the Seine and Loire; still holding their former possessions, and restraining the Visigoths to Languedoc. Salic Law.

Burgundians.

407 Inhabiting the Vistula, cross the Rhine.

411 Pass through Germany into France, and acquire territory on the Rhone.

Spain and Portugal.

409 Abandoned to the Vandals, Alani, and Suevi.

418 The Visigoths succeed them, and found a kingdom.

England—The Britons and Anglo-Saxons.

Though Britain had been partly subjected to the Romans from the time of Julius Cæsar, many severely contested battles took place from the time of their subjugation.

51 Caractacus, the British king, having been defeated in a great battle, was carried in chains to Rome.

61 Boadicea, the British queen, defeats the Romans; but is conquered soon after by Suetonius, governor of Britain.

85 Julius Agricola, governor of South Britain, to protect the civilized Britons from the incursions of the Caledonians under Galgacus on the Grampian Hills, first sails round Britain, which he discovers to be an island.

121 The Caledonians reconquer from the Romans all the southern parts of Scotland; upon which the emperor Hadrian builds a wall between Newcastle and Carlisle.

426 The Romans, reduced to extremities at home, withdraw their troops from Britain, and never return; advise the Britons to arm in their own defence, and trust to themselves.

449 Vortigern, king of the Britons, invites the Saxons from the Elbe and the Weser into Britain against the Scots or Picts.

455 The Saxons having repulsed them, invite over more of their countrymen, and begin, by force of arms, to establish themselves in Kent under Hengist. The Britons, after a hard struggle for nearly 150 years, are eventually compelled to take refuge in Wales and Cornwall.

Era VI.

From the fall of the Western Empire of Rome, A.D. 476-493, to the extinction of the Eastern Empire, and the commencement of the Reformation at the close of the fifteenth century (called the middle or feudal age); which comprehends the most prosperous eras of Papal ascendancy in the West, and of Saracenic domination in the East.

China.

627 The earlier dynasties having passed away, Li-Chimin, the son of the founder of the Tang dynasty, ascended the throne. He is celebrated in the Eastern annals for his wisdom, liberality, and nobleness of character. He extended his victorious arms in every direction, and was the author of a code of laws for the observance

A.D.

of his governors and high officers of state. His frontiers extended to the borders of Persia, the Caspian Sea, and the Altai of the Kirghis Steppe. He founded the Imperial Library and the great College.

643 Theodosius, the emperor of Constantinople, as well as the king of Persia, sent envoys to Li-Chimin, at Singan, with presents of rubies and emeralds. The Nestorian Missionaries also presented themselves at court, and the monarch, who had assumed the name of "Tai-tsong," heard them rehearse the leading tenets of their faith. He ordered a temple to be erected at his capital, and had some of their sacred books translated for his examination. During the 287 years that this line of princes held the throne, China was probably the most civilized country on earth; and the darkest days of the West, when the Christian world was wrapped in the deep gloom of ignorance and bigotry, formed her brightest era.

1127 The Southern Sung dynasty was established, and existed, under nine emperors, till 1280.

1268 The Tartars invade China, and expel many of the natives.

1280 The Moguls complete the conquest of China, under Kublai, grandson of Genghis Khan, and began the dynasty of Yuen, which continued, under ten emperors, till the year 1368. Under the reign of Kublai, the grand canal of China was dug, which still remains a lasting monument of his sagacity and enlightened policy. His deeds have been related by Marco Polo.

1368 A revolution took place under the influence and direction of Chu Yuenchang, or Hong-wu, the founder of the Ming, or "Bright dynasty." He was originally a priest and a plebeian by birth; but owing to the misrule, weakness, and luxury of the Mongolian sovereigns, he was enabled to raise the standard of revolt, and finally to expel them. He established his capital at Nankin, on the river Yang-tse-kiang, and received ambassadors at his court from Tamerlane and the emperor of Constantinople. His dynasty endured for 272 years under sixteen emperors.

1403 Yungloh, the son of Hong-wu, wrested the throne from his nephew, and removed the capital to Peking, in Chih-li. This prince is distinguished for the code of laws framed under his auspices, which has, with some modifications and additions, ever since remained as the basis of the administration. So prosperous was the empire during his reign that he was enabled to maintain a fleet manned with 30,000 sailors, which at various times went to the Moluccas, Java, Borneo, Manilla, Sumatra, Cochin-China, Siam, Molucca, Bengal, and Ceylon. These ships brought back to China enormous riches, and all the princes of the countries which they visited sent embassies to the sovereign of China.

1580 It was about this period, during the reign of Wanleih, that the Portugese came to China, and the Jesuits gained an entrance into the country.

[For the overthrow of the Mings, and the establishment of the present Manchu or Tsing dynasty, see dates 1618 and 1644 under the following Era.]

A.D.

Eastern Empire of Rome.

Amidst the revolutions of nations, and the great changes of manners caused by the irruptions of northern barbarians and military adventurers, the Grecian or Eastern empire of Rome, established at Constantinople, alone preserved itself from change or conquest, although it was repeatedly attacked, and some provinces plundered. Under the reign of Justinian, an attempt was made to reinstate the shattered remains of the Western Roman Empire, by Belisarius, who subdued the empire of the Vandals, and conquered the northern cost of Africa; and subsequently by Narses, who overcame the Goths, and recovered Italy. But these conquests were not long retained; their power was kept in check; North Italy was conquered by the Longobards, and the Romans were completely expelled from Africa by the Arabs.

529 Compilation of the Justinian code, comprising all preceding constitutions, including the code of Theodosius II. (A.D. 438).

565 The empire declines in power and extent.

726 Leo III. interdicts the worship of images.

754 Constantine V. suppresses cloisters.

897 Basilius I., the Macedonian legislator and economist, victorious against the Arabs and Bulgarians.

1081 The reign of Alexander Comnenus is rendered illustrious by the pen of his daughter, the Princess Anna Comnena.

1204 Constantinople besieged and taken by the Latins; again besieged and taken by the French and Venetians, who elect Baldwin, count of Flanders, emperor of the East.

1260 Michael Palæologus founds a family of distinguished emperors.

1261 Constantinople recovered from the Latins by the Greek emperors of Nice.

1422 Besieged by Amurath, the Turkish emperor.

1453 Mahomet II. takes Constantinople, from which time may be dated the fall of the Eastern empire, and the extinction of the Imperial families of Comneni and Palæologi.

Italy and the Popes.

492 The Papal power commences with Gelasius, bishop of Rome, the will of the monarch being made subordinate to that of the Pope.

493-554 The Ostrogoths, under Theodoric, conquer and retain the kingdom of Italy.

554 The Greeks hold possession of Italy.

568 But are dispossessed of North Italy by the Longobards, a German tribe from the Baltic, who are admitted by Justinian. The territory is now divided into Northern Italy, under the Longobards (Lombards), and Southern Italy, under the Greeks.

774 On the conquest of Charlemagne, Italy is again divided into Upper Italy, under the Franks; Lower Italy, under the Grecians; and Middle Italy, the Pope's territory. Boniface preaches Papal supremacy in Germany. Leo III. acknowledged first bishop of the West, but remains a vassal of the Frankish king.

872 Pope Adrian II. "releases from the obligation of an oath."

1000 Civilization and hereditary fiefs. The principal towns become republics; the dukes and counts sovereigns. Villanage abolished.

1073 Gregory VII. compels the emperor's prefect at Rome to swear obedience.

A.D.

1095 Celibacy. Investiture. First Crusade.

1099 Knights of St. John.

1118 Knights of the Temple.

1130 In Grecian or Lower Italy, the kingdom of Naples and Sicily erected.

1220 Venice an independent state; golden period of commerce. Cities of Venice, Genoa, and Pisa, chiefly furnished ships for the Crusades.

1342 Factions of the Guelphs and Ghibellines. The Medici. Papal indulgences.

1378-1417 Schism in the Romish Church.

1400 Decay of ecclesiastical power; discontent excited by annats, expectancies, tithes, and sale of indulgences, which eventually brings on the Reformation.

1400 A taste for the fine arts and a spirit for learning awakened. Italy became the nursery of cultivation for all Europe about this time.

Grecian Empire.

732 The Greeks, after struggling against the barbarous nations of the north and east, are hard pressed by the Arabs, but saved as an effect of the victory of Tours.

1000 They lose territory, which is taken by the Bulgarians on Mount Hæmus. Are pressed by the Russians.

1070 And by the Turks.

1204 The Grecian empire is divided. Out of it arise the kingdom of Thessalonica; Venice, with the Morea, Candia, and other islands; the Latin empire in Constantinople; and the Greek empire in Nicæa.

1453 Constantine IX. falls in the defence of Constantinople against the Turks.

1455-1462 Athens, Thebes, Morea, Lesbos, and other Grecian states fell under the dominion of the Turks, and the cultivated Greeks fled from the barbarians into Italy, where they were received with great respect, especially at Florence, by the reigning house of Medici. There they propagated a knowledge of the ancient Greek authors; and literature, enriched from those stores, expanded the human intellect.

Lombards.

548 The Longobards, or Lombards, were a tribe from the shores of the Baltic, who were invited to Italy by Justinian, against the Ostrogoths, etc.

570-770 They occupy the northern part of Italy, giving name to Lombardy.

756 They are defeated by Pepin.

774 Incorporated in the Franconian empire under Charlemagne.

Arabia and Turkey. (Mohammedan Era.)

On the extinction of the Roman empire, and amidst the great national convulsions thence arising, a new power suddenly burst forth in Arabia, which was excited by Mohammed for the extension of his religion; from which period (622) the Mohammedans date their Hegira, or flight of Mohammed to Mecca. The Arabs (or Saracens) were a people who had been hitherto unsubdued by the conquering nations. Their kingdom was in Yemen (Arabia

A.D.

Felix); and they lived in separate tribes (Bedouins) under Sheikhs or Emirs. Mohammed being everywhere victorious, the Arabians formed a navy, and founded an extensive empire by conquest. They conquered Jerusalem, Phœnicia, Syria, Persia, Egypt, Cyprus, and Rhodes, and the whole northern coast of Africa, as far as the Atlantic ocean. They passed over the Straits of Gibraltar into Europe, and expelled the Goths from Portugal and Spain. While they held possession of the western part of Europe, they attacked Constantinople, their Eastern capital, with their fleet.

730 All Europe trembled with the apprehension of being subjugated by the Mohammedan Arabs; when

732 Charles Martel, the Frank, effected the deliverance of Europe by the victory of Tours, and compelled the Arabs to recross into Spain. The Arabians, however, conquer nearly the whole of the Spanish Peninsula, driving the Goths to the Asturias.

800 The golden period of the Arabian or Saracenic empire, under the Caliphs of Bagdad, during which they cultivated the sciences of astronomy, medicine, chemistry, etc.; the English language still containing many of their technical terms; as algebra, alkali, zenith, etc., and also the numerical figures 1, 2, 3, 4, etc. The Arabian University and library of Cordova, famed for science throughout Europe.

800 The Turks or Tartars on the Altai Mountains advance westward.

840 Employed as mercenaries by the Arabs as a bodyguard, they dispose of the throne, and confine the Khalifat to Bagdad.

868 Achmed, a Turk, seizes Egypt and Syria.

1000 Title of Sultan with a vast empire.

1043 The Turks take Persia.

1072 Conquer Jerusalem. From these Turks (under whom Arabian learning and civilization were annihilated) a new dynasty eventually arises under Othman I., whose successors take possession of Constantinople.

1095-1272 The Christian princes, kings, and knights, with immense forces, and the most ardent religious zeal, carry on the Crusades by land and sea, from France, England, Germany, and Italy, to expel the Mohammedans from Jerusalem.

1099 Jerusalem taken by the Christians, under Godfrey de Bouillon, and erected into a Christian kingdom.

1187 Jerusalem reconquered by the Turks under Saladin. The subsequent endeavors of the Christians of the West to recover the Holy Land were ineffectual.

1453 The Turks capture Constantinople, when the Greek empire terminates.

1492 After this period the power of the Saracens declines; and they are finally expelled from Granada, their last possession in Spain.

Franks.

714 Pepin, the "major domo," or chief of the Franks, is succeeded by Charles Martel (his natural son).

732 Subjects several German tribes; and by the victory of Tours he checks the progress of the Arabs.

737-741 Who becomes duke and prince of the Franks.

A.D.

752 His son Pepin is made king of the Franks, and nominal sovereign of Lombardy.

752-911 The second dynasty (that of Charlemagne). In France until 987.

800 Charles the Great raised the empire of the Franks; was crowned Roman emperor for subduing the revolt of the Pope's subjects. He subdued Saxony after a war of 33 years, and introduced Christianity; built towns and fortresses; endowed schools and institutions; encouraged learning, religion, and agriculture. After his death the Franconian empire was disunited, and out of its ruins arose the three kingdoms of France, Germany, and North Italy. The era of Chivalry commenced; knights ruled as feudal lords over their vassals; and burgher right was nowhere to be found.

900-1000 The institutions founded by Charles the Great for education were almost annihilated in the commotions of the Franconian empire. Even the emperors of Germany, and the kings of France, were totally illiterate, being unable either to read or write. Learning was solely confined to the Christian priests. They controlled a superstitious people by their influence, commanded the brave but ignorant knights, and coerced emperors and kings.

France.

987 On the dissolution of the Franconian empire, and the termination of the second dynasty founded by Charlemagne, Hugo Capet, the founder of the third dynasty, was elected King of France.

1096 The first Crusade.

1118 The Commons seek protection from the nobles, by submission to the king. Villanage abolished; Knights Templars instituted.

1152 By the divorce of Louis VII. from Eleonora, Guienne, Poitou, etc., fell to Henry of England; hence the subsequent wars. The Albigenses. The Troubadours.

1180 Philip II. Joint Crusade with Richard I. of England. John of England summoned as a vassal.

1214 Increase of royal power in France.

1305 First assembly of the States-General. Election of Bishops, and the power of the king independent of the Pope.

1328-1498 Dynasty of Valois. Edward III. assumes the title of King of France.

1346 Battle of Crécy.

1350 Dauphiny gives title to the king's eldest son.

1356 King John made prisoner at Poictiers.

1415 Victory of Agincourt by Henry V., who conquers Normandy.

1429 After almost continual war between England and France from 1330, Joan of Arc delivered France by raising the siege of Orleans.

Germany and Italy.

919 On the dissolution of the Franconian empire, after Charlemagne, Germany and North Italy were chiefly divided into dukedoms and principalities. Third or Saxon dynasty commences. Henry I. extends his territory; enlarges burgher rights; creates several Margravites. The silver mines of Hertsburg discovered under Otto I. Wealth and industry arise.

A.D.

955 Hungarians finally driven out of Germany.

1000 Austria a Margravite.

1076 Henry IV. excommunicated by Pope Gregory VII. for Papal disobedience. All ecclesiastical patronage wrested from sovereigns.

1125 The fifth dynasty, chiefly Swabian emperors.

1156 Roman law in Germany. Universal prostration to the see of Rome.

1195-1268 Many thousands of subjects sacrificed in the Crusades. Those who returned from Palestine, especially through Greece, acquire knowledge, which lessened their superstition and awoke reflection. Kingly power was increased; and princes perceived that burghers and the peasantry were the firmest supporters of the throne. Burgher rights were enlarged; cities more numerous and flourishing; and the influence of the church declined.

1407 John Huss at Prague enforced his doctrines, and preached against the sale of the "remission of sins." He was burnt; but the flame which he kindled eventually led to the Reformation effected by Luther.

1440 John Gutenburg, a German, invented the art of printing at Mentz, and Peter Schoeffer brought it into operation.

England—The Anglo-Saxons, Danes, Normans, etc.

After the conquest of Britain the Anglo-Saxons divide the country into seven kingdoms.

827 Egbert unites these into one kingdom, which he names England; that is, the land of the Angles.

832 The Normans and Danes infest England.

880 Alfred the Great vanquishes them; forms a navy; enacts wise laws; patronizes learning and science.

1000 The Normans, from the Danish Islands, plunder the French, English, German, and Russian coasts; possess themselves of whole provinces in Britain (the Shetland and Orkney Isles and the Hebrides), in France (Normandy), and likewise in Russia and Italy.

They sail to Iceland, and discover Greenland; send Christian missionaries there.

1016 Canute of Denmark conquers and becomes King of England.

1066 William of Normandy conquers England, and reigns there.

1080 Feudal system; forest laws; Doomsday book.

1199 Dynasty of Plantagenet through the marriage of Matilda, daughter of Henry I., with the house of Anjou. Circuit of justice introduced in the reign of Henry II. "Richard Cœur de Lion." War against France, "Dieu et mon Droit."

1215 General revolt of the people against King John. Magna Charta obtained.

[From the eleventh to the thirteenth century England was engaged in the Crusades, with which all Europe was infatuated.]

1265 Henry III. Deputies of the Commons first summoned to Parliament.

1293 A regular succession of Parliaments in England from this year.

1297 The coronation chair and the records of Scotland carried off by Edward.

1303 Edward I. invaded Scotland.

1307 Coal first used in England.

1314 The Scots defeated the English under Edward II., at Bannockburn.

A.D.
1321 A civil war in England.
1326 A civil war in England; the king dethroned.
1331 The art of weaving cloth brought from Flanders to England.
1346 The battle of Crécy, and defeat of the French, by Edward III., August 26.
1347 The Admiralty Court, Doctor's Commons, instituted. Edward took Calais.
1349 The order of the Garter instituted.
1356 The French defeated at Poictiers, and King John made prisoner, September 19.
1362 Pleadings in England were decreed to be in English, not in French.
1371 The family of Stuart began to reign in Scotland.
1377 Wickliffe's doctrines condemned in England.
1381 Bills of exchange first used in England. The Wat Tyler insurrection.
1383 Cannon first used in the English service by the governor of Calais.
1384 The first navigation act:—no goods to be exported or imported in foreign bottoms.
1387 The first Lord High Admiral was appointed.
1388 The Scots defeated the English at Otterburn.
1391 The Papal power and authority abolished in England by act of Parliament.
1405 Great guns first used in England at the siege of Berwick.
1415 The French defeated at Agincourt.
1422 Henry VI., King of England, proclaimed King of France.
1429 The English besieged Orleans, but were repulsed by Joan of Arc.
1451 The English evacuate Rouen and several places in France.
1455 The battle of St. Albans, in England; the beginning of the Wars of the Roses.
1457 Glass first manufactured in England.
1461 Second battle of St. Albans, in which the Earl of Warwick is defeated by Queen Margaret.
1468 Warwick's conspiracy against King Edward IV.
1470 The battle of Stamford. Edward attainted and Henry restored.
1471 The battle of Barnet. Edward restored. The battle of Tewkesbury.
1483 Richard III. usurps the throne.
1485 The battle of Bosworth, and death of Richard.
1487 The Court of Star-Chamber instituted in England.

Spain and Portugal.

476 The peninsula of Spain and Portugal having been subject to the Vandals and Visigoths from the destruction of the Roman empire, was early taken possession of by the Mohammedan invaders.
1087 The Moors enter Spain to assist the Arabs and Saracens.
1139 Portugal a kingdom.
1212 Battle of Toloso. Contests between the Moors and Christians elicit the spirit of chivalry. Goths separate into three kingdoms, Castile, Aragon, and Portugal. Defeat of the Saracens at Tolosa. Granada their last hold; their power vanishes in 1492.
1418 Great ocean discoveries began in the reign of Prince Henry of Portugal, "the Navigator." It was not till then known that Africa had a southern termination, or that it was possible to sail from

A.D.

Europe round Africa. He planned he first enterprise, and through his zeal a considerable extent of the western coast of Africa was first discovered.

1479 The kingdom of Spain formed out of the union of Aragon and Castile.

1484 The Inquisition established in Spain; and, 1526, in Portugal.

1492 Queen Isabella fits out Columbus for his western expedition, when he discovers the continent of America.

1497 Vasco de Gama, in a Portguese ship, sailed round the Cape of Good Hope and reached the East Indies by sea.

1497 North America discovered by the Cabots.

Era VII.

From the Reformation to the present time, which forms the Era of "Modern History;" when the Revival of Literature, Arts, and Science, after the darkness of the Middle Ages, became the bright harbinger of universal civilization.

Sixteenth Century of the Christian Era.

1500 Brazil discovered by the Portuguese.

1502 Island of St. Helena discovered.

1505 Shillings first coined in England.

1513 War between England and Scotland, and the battle of Flodden.

1517 Martin Luther began the Reformation in Germany.

1519-1521 Magellan sails round the globe.

1521 The title of Defender of the Faith conferred on Henry VIII.

1525 Francis taken prisoner at the battle of Pavia.

1529 Henry VIII. quarrels with the Pope.

1532 The Court of Session instituted in Scotland.

1533 The papal authority abolished in England, and Henry VIII. declared supreme head of the church.

1535 The Reformation introduced into Ireland.

1539 The Bible printed in English. The monasteries suppressed in England and Wales.

1543 Copernicus published his theory of the rotation of the earth round the sun.

1545 The Council of Trent began, Dec. 13, and lasted eighteen years.

1546 A league against the Protestants. The heresy of Socinianism sprang up in Italy.

1553 Popery restored in England by Queen Mary. Servetus burnt at Geneva.

1558 The reformed religion authorized in England by Queen Elizabeth.

1560 The Presbyterian form of government established in Scotland.

1566 The thirty-nine articles of the Church of England established.

1568 The Queen of Scots imprisoned in England. The reformed religion tolerated in the Low Countries.

1571 The Turks defeated at the battle of Lepanto.

1572 The massacre of the Protestants at Paris.

1580 The world circumnavigated by Sir Francis Drake.

1582 The Julian calendar reformed by Gregory, and the New Style introduced into Catholic countries, Oct. 5 being reckoned Oct. 15.

1585 Raleigh sends out the first English colony to America.

A.D.

1587 Mary, Queen of Scots, beheaded. Drake burnt 100 sail of ships in the bay of Cadiz.
1588 The Spanish Armada destroyed.
1589 A conspiracy against James, king of Scotland, by the Popish Lords.
1590 Telescopes invented by Jansen, a spectacle maker in Germany.
1591 Watches brought to England from Germany.
1592 Presbyterian church government established in Scotland by act of Parliament.
1595 Tycho Brahé observed the obliquity of the ecliptic to be 23° 29′ 25″.
1598 Tyrone's insurrection in Ireland. The edict of Nantes.
1600 The East India Company established.

Seventeenth Century.

1603 Death of Queen Elizabeth. James I. (VI. of Scotland) becomes king of Great Britain.
1605 The gunpowder plot discovered, November 5.
1607 Hudson's Bay discovered by the navigator of that name.
1608 Galileo discovers, with a telescope, the satellites of Jupiter.
1610 Henry IV. of France murdered by Ravaillac.
1614 Logarithms invented by Napier, of Murchiston, in Scotland.
1619 Discovery of the circulation of the blood by Dr. W. Harvey.
1625 Charles I. king of Great Britain.
1627 The barometer invented by Torricelli, and the thermometer by Drabellius.
1632 Gustavus Adolphus killed in the battle of Lutzen, November 16.
1641 The Irish rebellion and massacre of the Protestants, October 23.
1642 Civil war in England. Battle of Edgehill.
1644 Cromwell defeated the royal army at Marston Moor, July 3.
1644 The dynasty of the Mings was overthrown by Tien-sung, the founder of the present Manchu dynasty and son of Tien-Ming. On the capture of Pekin and the destruction of the Mings he succeeded in establishing the Tsing, or "Pure Dynasty," which has continued to the present time.
1645 King Charles I. totally defeated at Naseby, June 1.
1649 King Charles I. beheaded, January 30.
1654 Cromwell assumes the Protectorship of England.
1660 The Restoration. Charles II. king of Great Britain.
1662 The Royal Society instituted in England by Charles II.
1665 The plague raged in London and carried off 68,000 persons.
1666 Great fire in London, which continued three days and destroyed 13,000 houses.
1668 The peace of Aix la Chapelle.
1678 The Habeas Corpus Act passed in England.
1679 The Covenanters defeated at Bothwell Bridge, June 22.
1683 The judicial assassination of Lord Russel and Algernon Sydney.
1685 James II. king of Great Britain. Monmouth taken and beheaded.
1685 The Newtonian philosophy first published in England.
1688 The Revolution in Great Britain. King James abdicates the throne, December 23.
1689 William and Mary crowned. Episcopacy abolished.
1690 Battle of the Boyne gained by William over James.
1692 Massacre of Glencoe.

A.D.

1695 Namur taken by King William, June 25.
1696 The Assassination Plot in England discovered.
1697 The peace of Ryswick.
1700 The grandson of Louis XIV. succeeds to the Spanish throne.

Eighteenth Century.

1701 First king of Prussia crowned.
1702 Anne queen of Great Britain.
1704 Battle of Blenheim, August 2. St. Petersburg founded by Peter the Great.
1707 The articles of union ratified by the Scottish Parliament.
1708 Battle of Oudenarde. The French defeated by Marlborough.
1709 Battle of Pultowa, June 30. Battle of Malplaquet, September 11.
1713 The peace of Utrecht signed, March 30.
1714 George I., Elector of Hanover, king of Great Britain.
1715 Rebellion in Scotland. The Pretender lands.
1717 The Turks totally routed at Belgrade by Prince Eugene.
1718 Charles XII. of Sweden killed at the siege of Frederickshall, in Norway.
1720 The South Sea Scheme began, April 7, and ended September 29. The kingdom of Sardinia granted to Victor Amadeus, Duke of Savoy.
1722 Peter I. of Russia assumes the title of Emperor.
1725 Death of the Czar, Peter the Great. Protestants persecuted in France.
1727 George II. king of Great Britain. Inoculation successfully tried on criminals.
1731 Treaty between Great Britain, the emperor and king of Spain, July 22.
1736 The accession of Kien-Lung to the empire of China. During his extended reign he received embassies from the Russians, Dutch, and English, by which the character of the Chinese and the nature of their country became better known to western nations.
1739 Nadir Shah, king of Persia, conquers the greater part of the Mogul empire.
1740 Frederick III. (the Great) king of Prussia. Maria Theresa queen of Hungary.
1741 Carthagena taken by Admiral Vernon, June 19.
1743 The French defeated by the allies at Dettingen, June 6.
1744 War declared against France by Great Britain, March 31. Commodore Anson arrived at St. Helen's, having completed his voyage round the world.
1745 The battle of Fontenoy, April 30 (O. S.). Cape Breton taken by the British. Rebellion in Scotland in July. King's forces defeated at Gladsmuir, September 21.
1746 The royal forces defeated at Falkirk, January 17. Battle of Culloden, April 16. Lords Balmerino and Kilmarnock beheaded, August 18.
1747 Lord Lovat beheaded, April 9. The allied army defeated at Lafeldt. Admiral Hawke defeated the French fleet. The Prince of Orange made Stadtholder.

A.D.

1748 Peace of Aix la Chapelle, between Great Britain, Spain, Austria, Sardinia, and Holland.

1750 Westminster bridge finished, after the labor of twelve years.

1752 New Style introduced into Britain, September 3 being reckoned September 14.

1753 British Museum established at Montague House.

1756 War declared between Great Britain and France, May 18.

1757 Damien's conspiracy against Louis XV. The Prussians defeat the French and Austrians at Rosbach, November 5. The king of Prussia master of Silesia.

1759 The battle of Minden, August 1. Battle of the Heights of Abraham, in which General Wolfe is killed and the French are defeated; Quebec falls, September 17.

1760 George II. died, and was succeeded by his grandson, George III., October 25.

1763 Peace between Great Britain, France, and Spain.

1764 Parliament granted £10,000 to Mr. Harrison for discovering the longitude by his time-piece. Byron's discoveries in the South Seas.

1765 The Regency bill passed in England, May 15.

1766 American Stamp Act repealed. Death of the Pretender.

1767 Wallis and Carteret made discoveries in the South Seas.

1768 The Royal Academy of Arts established at London.

1769 Captain Cook's discoveries in the Pacific Ocean.

1770 Blackfriars' bridge opened.

1772 Revolution in Sweden. Poland dismembered by Russia, Prussia, and Austria.

1773 Cook made a second voyage, and sailed to 71° 10′ south latitude.

1774 Louis XVI. king of France.

1775 American war commenced, April 19. The action at Bunker Hill, June 7.

1776 The Americans declared themselves independent, July 4.

1777 Surrender of Burgoyne at Saratoga, October 7.

1778 League between the French and Americans, October 30.

1779 Siege of Gibraltar. Captain Cook killed at Owhyhee.

1780 Sir G. Rodney defeated the Spanish fleet near Cape St. Vincent, January 16. The Protestant Association petition for the repeal of the Popish bill, and dreadful riots in London, June 2. Americans defeated at Camden, August 16.

1781 Lord Cornwallis defeated the Americans at Guilford, March 15. Surrender of the British at Yorktown, October 18.

1782 Sir G. Rodney defeated the French fleet off Dominica, April 12.

1783 Preliminaries of Peace, and the independence of America declared, January 20.

1786 Shay's rebellion in Massachusetts.

1787 The Assembly of the Notables convened at Paris, February 22. Warren Hastings impeached for misdemeanors in the government of India, May 21. Framing of the United States Constitution at Philadelphia.

A.D.

1788 The Constitution ratified by a majority of the United States.

1789 The opening of the States General at Versailles, May 5. The French Revolution began. The Bastile taken, July 14. The king of France accepts the declaration of the Rights of Man, October 6. Decree for dividing France into eighty-three departments. Washington elected President of the United States.

1790 Titles of nobility suppressed in France, February 24.

1791 Death of Mirabeau, April 2. Louis XVI. flees from Paris: is arrested at Varennes, June 21. Declaration of Pilnitz; coalition between Austria and Prussia, August 27. The French constitution completed, September 3. National legislative assembly meets at Paris, October 1.

1792 Peace of Jassey, January 9. Gustavus III. of Sweden assassinated, March 16. Attack on the Tuileries, August 10. Louis XVI. and his family imprisoned, August 13. The September massacres, September 2-3. France declared a republic, September 22. Battle of Jemappes, November 6.

1793 Louis XVI. condemned by a majority of five voices, and beheaded, January 21. The Alien bill passed. War declared by England against France, February 1. Toulon surrendered to Lord Hood, August 28. Queen of France condemned and beheaded, October 15.

1794 Lord Howe defeated the French fleet, June 1. Battle of Fleurus, June 26. Robespierre guillotined, July 28. The Jacobin Club abolished, October 18. Marriage of the Prince of Wales with the Princess Caroline of Brunswick, December 30.

1795 Holland overrun by the French. The Stadtholder takes refuge in England, January. Warren Hastings, after a trial of seven years, is acquitted, April 25. Louis XVII. died in prison at Paris, June 8. The French defeated off L'Orient by Admiral Lord Bridport, June 23. Belgium united to the French Republic, September 30. Remainder of Poland divided between Russia, Austria, and Prussia, November 25.

1796 Battle of Lodi, May 11. The French, under Napoleon, overrun Italy. General Washington issues his farewell address to the people of the United States, September 17.

1797 Sir John Jervis, afterwards Earl St. Vincent, defeated the Spanish fleet, February 14. A mutiny in the British fleet at Portsmouth and the Nore, May and June. Dutch fleet defeated by Admiral Duncan, October 11.

1798 Irish Rebellion. The French fleet is destroyed at Aboukir, August 1. French fleet defeated by Sir J. B. Warren, October 12.

1799 War between France and Austria. Seringapatam taken and Tippoo Saib killed, May 4. Bonaparte defeated by Sir Sidney Smith at St. Jean d'Acre, May 21. Bonaparte declared First Consul, December 25. Death of Washington, December 14.

1800 Union with Ireland agreed to in Parliament, February. Battle of Marengo, June 14. Cisalpine Republic established, June 17. Malta taken by the English, September 5. Battle of Hohenlinden, December 3. Seat of government of the United States removed from Philadelphia to Washington.

A.D. Nineteenth Century.

1801 Battle of Alexandria and death of Abercrombie, March 21. Battle of Copenhagen and destruction of the Danish fleet, April 2. Peace between Great Britain and France, October 1. War between Tripoli and the United States.

1802 Christian religion re-established in France, March 2. Definitive treaty with France signed at Amiens, 27. Planet Pallas discovered by Dr. Olbers, 28. Parliament voted £10,000 to Dr. Jenner for the discovery of vaccination. Bonaparte declared Consul for life, July. The Prince of Orange renounces the Stadtholdership, August.

1803 War with France, May 16. Habeas Corpus suspended and martial law proclaimed. Scindia defeated by General Wellesley, August 10. The British troops entered Delhi, and the Great Mogul put himself under the protection of General Lake, September. St. Domingo given up to the blacks, November 19. France sells Louisiana to the United States.

1804 Murder of the Duke d'Enghien, March 21. Bonaparte proclaimed emperor, 20. Francis II. relinquishes the title of emperor of Germany and assumes that of emperor of Austria.

1805 The Spaniards declare war against Britain. Napoleon crowned king of Italy, May 26. Sir R. Calder defeated the combined French and Spanish fleets, July 22. Gregorian calendar restored in France, September 9. Battle of Trafalgar and death of Nelson, October 21. Battle of Austerlitz, December 20. Peace between Tripoli and the United States.

1806 Cape of Good Hope taken by Sir D. Baird, January 8. Battle of Maida, July 4. Confederation of the Rhine; the electors of Saxony, Bavaria and Wurtemburg assume the title of king.

1807 Peace of Tilsit. Copenhagen bombarded and the Danish fleet surrendered to the British, September 7. Portugal taken possession of by the French. The Prince Regent and royal family emigrate to the Brazils, November 29. Jerome Bonaparte king of Westphalia.

1808 Bonaparte prohibits all commerce with Great Britain, January 11. French enter Rome and seize on the government, February 2. Murat made king of the two Sicilies and Joseph Bonaparte king of Spain. Ferdinand VII. sent to Paris. The Junta of Seville declares war against France, May 1. Convention of Cintra, 30. Finland surrendered to Russia, November 7.

1809 Battle of Corunna and death of General Sir John Moore, January 16. French fleet destroyed in Basque Roads, April 12.

1810 Empress Josephine divorced, January 16. Marriage of Napoleon with the Archduchess Maria Louisa, April 1. Treaty of peace between Austria and France. Holland united to the French empire. Bernadotte chosen Crown Prince of Sweden, August 21.

1811 Prince of Wales appointed Regent, January 10. Massacre of Mamelukes at Grand Cairo, March 1. Java surrendered to the British, August 8.

1812 Perceval, Premier of Great Britain, assassinated by Bellingham, May 11. The United States declares war against Great Britain, disputing her claim of the right of search, June 18. Russia and

A.D.

Sweden declare war against France. Battle of Salamanca, July 22. Madrid taken by the British, August 12. French entered Smolensko, 18. Siege of Cadiz raised, 25. Seville taken by the British, 27. Battle of Borodino, or Moskwa, September 7. The French entered Moscow, 14. Moscow burnt. Retreat of the French army, amounting to about a quarter of a million of men, who were almost annihilated by the Russians.

1813 Confederacy between Russia, Prussia, and Bavaria against France. Empress Maria Louisa, Regent, in absence of Napoleon, April 15. Inquisition abolished in Spain. Battle of Lutzen, May 2. The palace of Pekin was attacked by a numerous body of assassins, who attempted the life of the emperor. Battle of Vittoria, June 21. San Sebastian taken by storm, August 31. Battle of Dresden and death of Moreau, September 4. American naval victory of Commodore Perry over an English fleet on Lake Erie, September 10. Battle of Leipsic, in which Bonaparte lost 80,000 men and 180 pieces of cannon, October 19. Fall of Pampeluna, 31. Surrender of Dresden, November 25. Wellington crossed the Nive and defeated Soult, December.

1814 Wellington took possession of Bordeaux, March 8. Allied sovereigns entered Paris, 31. Abdication of Bonaparte, April 5, who was sent to Elba, 28. The French, under Soult, defeated at Toulouse, April 10. Louis XVIII. entered Paris, May 3. Peace between England and France, 30. Allied sovereigns entered London, June 8. City of Washington taken by General Ross and the capitol burned, August 24. A general peace concluded. Islands of St. Lucia, Tobago, Malta, the Mauritius and the Cape of Good Hope ceded to Britain. Norway annexed to Sweden November 4. Treaty of peace between England and America, December 24.

1315 Defeat of the British by Jackson at New Orleans, January 8. Bonaparte landed from Elba at Cannes, March 1, and entered Paris, 21, and left Paris to meet the allied forces, May 2. Battles of Ligny and Quatre Bras, June 16. Battle of Waterloo, June 18. Paris capitulated to the allied powers, July 3. Napoleon gave himself up to the British and was sent to St. Helena, August 7. Murat (king of Naples) shot at Pizzo, October 13. Treaties of general peace signed at Paris, November 20. Marshal Ney shot for treason, December 5.

1816 Princess Charlotte married to Prince Leopold of Saxe-Coburg Saalfield, May 2. Lord Exmouth destroyed Algiers, August 27.

1817 Bolivar becomes Dictator of Venezuela.

1818 The Regalia of Scotland found in Edinburgh castle, February 5. Queen Charlotte died at Kew, November 17. The Seminole campaign. Chile becomes independent of Spain.

1819 Steam vessel arrived from America, July 15. Great meeting for reform at Manchester, dispersed by yeomanry, when several were killed and wounded. August. Venezuela and Granada form the Republic of Colombia, with Bolivar as President.

1820 Death of George III., in the 82d year of his age and 60th of his reign. Indictment against Queen Caroline, wife of George IV., for alleged misconduct abroad, February 15. Florida ceded to the United States, February 22. Massacre at Cadiz by soldiery,

A.D.

March 10. Carbonari suppressed by the Austrian government in Italy. Sovereigns of Russia, Austria, and Prussia meet at Troppau, November 10. Suicide of Christophe Henry, king of Haiti, December 12.

1821 Death of Napoleon Bonaparte, May 5. George IV. of England crowned in Westminster Hall, July 19. Queen Caroline died, August 7. Mexico, under Iturbide, achieves independence. The colonies of Central America declare their independence of Spain.

1822 The Greeks proclaim their independence. Constitutionalists triumph over Royalists in Spain, but the Great Powers at the Congress of Verona resolve to suppress the Constitutionalists. Brazil separates from Portugal. Liberia is founded by the American Colonization Society.

1823 Spain invaded by a French army and the Constitutionalists defeated. The Monroe Doctrine propounded in Congress.

1824 War between England and Burma. Singapore acquired by the English. Spanish power completely overthrown in South America by Sucre's victory at Ayachucho.

1825 The Erie Canal opened. Gas first used for lighting the streets of New York. The limelight invented by Drummond. Bolivia becomes a republic.

1826 Deaths of Jefferson and John Adams, ex-Presidents, July 4. Russia declares war against Persia. Indemnity convention between Great Britain and the United States for damages during the War of 1812. London University founded.

1827 Treaty of London, July 6, for the creation of the kingdom of Greece. Turkish-Egyptian fleet destroyed at Navarino by the allied fleets, October 20.

1828 Russia concludes peace with Persia, February 22, and declares war against Turkey, April 26. Uruguay becomes an independent republic. Greece gains independence.

1829 Peace of Adrianople between Turkey and Russia, September 14. Spain unsuccessfully attempts to recover Mexico. Venezuela separates from Colombia.

1830 Revolution in Paris; downfall of the Bourbons. Revolt of the Belgians against the Dutch; Belgium becomes independent. Revolution in Poland. The Mormon Church organized at Manchester, N. Y., by Joseph Smith.

1831. The Reform bill introduced into the British Parliament by Lord John Russell. The Polish insurrection defeated. The Brazilians revolt and Emperor Pedro abdicates.

1832 Black Hawk war. The English Reform bill passed. Abd-el-Kader opposes the French occupation of Algiers. Veto of the United States Bank bill. Nullification ordinance in South Carolina.

1833 Abolition of slavery in the British colonies. Foundation of the American Anti-Slavery Society. Carlist insurrection in Spain. The fleet of Dom Miguel of Portugal defeated by that of Dom Pedro, commanded by Admiral Napier, and Dom Pedro becomes regent. Treaty of Unkiar Skelessi between Russia and Turkey for peace and alliance.

A.D.

1834 Quadruple alliance between England, France, Spain, and Portugal against the Miguelites and Carlists. Emancipation of slaves in British colonies. Education in England receives its first parliamentary grant.

1835 The second Seminole war. Texan revolution against Mexican rule. The Conference of Teplitz between the emperors of Russia and Austria and the king of Prussia. Appearance of Halley's comet.

1836 The storming and massacre at The Alamo, San Antonio, Texas. Santa Ana defeated by Houston, who is proclaimed president of Texas. Risings in Madrid and Lisbon.

1837 Chicago incorporated as a city. Financial disaster in the United States. Princess Victoria becomes Queen of Great Britian. Rebellion in Canada.

1838 Peru proclaims her independence. International Copyright Act passed. The steamship "Great Western" makes her first voyage across the Atlantic. Daguerre invents his system of photography.

1839 The Anti-Corn Law and Chartist agitations in England. Defeat of the Turkish army and surrender of the fleet to the Egyptian forces. Russia campaigns successfully in Caucasia and disastrously against Khiva, an Anglo-Indian force invades Afghanistan. Gold discovered in Australia. The Central American confederacy is dissolved.

1840 Queen Victoria marries Prince Albert of Saxe-Coburg-Gotha, February 10. Penny postage established in Great Britain. Revolt in Syria against Mehemet Ali; Beirut and Acre occupied by a British and Austrian expedition under Sir Charles Napier; peace effected by the treaty of London. First opium war between England and China.

1841 Union of Upper and Lower Canada. William H. Harrison dies a month after his inauguration as President of the United States, and John Tyler succeeds him. The Prince of Wales (Edward VII.) born, November 9. The Afghans rise successfully against the English occupation.

1842 War with the Seminoles ended. The Maine boundary settled by the Ashburton treaty between Great Britain and the United States. The British forces retreating from Afghanistan massacred, except one man. A British army reoccupies Afghanistan, but withdraws a month later. The Treaty of Nanking opens Chinese ports to British commerce. The Boer Republic in Natal is occupied by the British.

1843 Home Rule agitation in Ireland under O'Connell. The Free Church is formed in Scotland. Sir Charles Napier annexes Scinde, after a hard-fought campaign. Opening of the Thames Tunnel. Botta discovers the site of Nineveh.

1844 Abd-el-Kader of Algeria and his ally, Abderrahman, emperor of Morocco, defeated by the French. Murder of the Mormon prophet, Joseph Smith. Treaties effected by the United States and France with China. Establishment of the Republic of Santo Domingo.

1845 Texas admitted to the Union as a state. Mexico declares war against the United States. French military atrocities in Algeria. The first Sikh war, and British victories at Moodkee and Ferozeshah.

A.D.

1846 General Taylor defeats the Mexicans. California and New Mexico occupied. The unadopted Wilmot Proviso formulates the exclusion of slavery from all acquired Mexican territory. Repeal of the English corn laws. A constitutional charter granted New Zealand. Great Irish famine, and large emigration to the United States.

1847 Expulsion of the Jesuits from Switzerland, and the revolt of the Sonderbund suppressed by the Federal forces. Abd-el-Kader surrenders to the French. The Mormons found Salt Lake City. General Scott invades Mexico, and takes the capital city.

1848 Gold discovered in California. Treaty of Guadaloupe-Hidalgo between the United States and Mexico. Revolution in France; republic proclaimed. Risings in Italy, Germany, Austria, Hungary, Denmark, Poland, and Ireland. The war for the liberation of Italy from the Austrians begins under Charles Albert of Sardinia. Louis Napoleon becomes president of France. The second Sikh war begins in India. The British occupy the Orange River Sovereignty, and the Boers, migrating beyond the Vaal river, establish the Transvaal Republic.

1849 Rush of gold miners to California. The Danes attack Schleswig-Holstein and are disastrously defeated; armistice effected between Prussia and Denmark. The Austrians, assisted by the Prussians, suppress the Hungarian rising. The Austrians succeed in quelling the Italian revolt, and a French army assists in the restoration of the papal temporal power, overthrown by the short-lived Roman Republic. The Sikhs are conquered and the Punjab annexed to British India. Livingstone discovers Lake Ngami.

1850 The Clayton-Bulwer treaty between the United States and Great Britain provides for a trans-isthmian canal across Central America. Henry Clay's compromise measures on slavery adopted. The British blockade of the Piræus enforces the payment of the Don Pacifico claims by Greece. Austria, Bavaria, Saxony, and Würtemberg effect a treaty for German union, and peace is arranged between Prussia, Denmark, and the German Confederation. The Taiping rebellion in China. Northwest Passage discovered by McClure.

1851 Louis Napoleon effects a coup d'état and is elected president of the French republic for ten years. The Great Exhibition in London.

1852 Restoration of the French empire. Napoleon III. proclaimed emperor. The Burmese campaign; the British annex Pegu. Buenos Ayres secedes from Argentina.

1853 Napoleon III. marries Eugénie de Montijo. Revolution in Mexico. Russo-Turkish war. England and France oppose Russia's demands for a protectorate of the Greek Christians in Turkey. The Taipings take Nanking, Shanghai, and other Chinese cities.

1854 The Ostend manifesto recommends the purchase of Cuba by the United States. The Kansas-Nebraska bill passed and the Missouri Compromise repealed. Commercial treaty between Canada and the United States. France and England commence the Crimean war against Russia. Commodore Perry effects a treaty between Japan and the United States. The Orange River republic is established.

A.D.

1855 William Walker leads a filibustering force into Nicaragua. Fall of Sebastopol before the attacks of the allies. Capitulation of Kars to the Russian forces. The Bessemer steel manufacturing process patented. The Zambesi Victoria falls discovered by Livingstone. The trans-isthmian Panama railway opened.

1856 Treaty of Paris ends the Crimean war. Great Britain annexes Oudh. Britain wars with Persia and with China. Warlike contest of settlers in Kansas.

1857 Outbreak of the Indian Mutiny. Business panic in the United States.

1858 Kansas rejects the pro-slavery Lecompton Constitution. The Indian Mutiny suppressed and the British government assumes control of the East India Company's interests. China defeated by the British and French, makes treaties with leading foreign powers and cedes the Amur region to Russia. Atlantic submarine cable laid; soon fails to work.

1859 The Wyandotte Constitution prohibits slavery in Kansas. Anti-slavery insurrection at Harper's Ferry under John Brown, who is hanged, December 2. Franco-Italian war against Austria, and defeat of the Austrians at Magenta and Solferino. Treaty of Zurich ends war, and Italy acquires Lombardy.

1860 Discovery of oil wells in Pennsylvania. Italy cedes Savoy and Nice to France and annexes Tuscany, Parma, Modena, and the Romagna. Garibaldi's campaigns for the unification of Italy. Attempted federation of Austria. Massacres of Maronites and Christians in Syria lead to occupation by a French force. An Anglo-French force occupies Pekin to enforce existing treaties. Spaniards war with Morocco, and acquire Tetuan. Abraham Lincoln elected President by the Republican party. South Carolina secedes, December 20.

1861 Secession of other Southern States, and election of Jefferson Davis as president of the Confederate States of America, February 9. Abraham Lincoln inaugurated as president, March 4. The Confederates bombard Fort Sumter, April 12-13. Battle of Bull Run, July 21. The Austrian empire receives a new constitution. Victor Emmanuel is made king of Italy. Spain, France, and England unite in the Convention of London to enforce their Mexican claims, and send fleets to Mexico. Prince Albert, consort of Queen Victoria, died, December 14.

1862 The Confederate commissioners, Mason and Slidell, taken from the British steamer Trent, are released on the representation of the British government. The first naval battle between ironclads, the Merrimac and Monitor, takes place in Hampton Roads, March 9. Numerous battles are fought between the Union and Confederate forces. (See Chart of U. S. history.) France declares war against Mexico; England and Spain withdraw. Anam cedes Cochin-China to France. Garibaldi is wounded, defeated and captured during an expedition against Rome.

1863 President Lincoln issues a proclamation liberating the slaves of the Confederate States. The Union and Confederate campaigns continue. Unsuccessful revolt of the Poles against Russia. France conquers Mexico, an empire is proclaimed, and Maximilian, archduke of Austria, is elected emperor. The Prince of Wales

A.D.

(Edward VII.) marries Princess (now Queen) Alexandra of Denmark, March 10.

1864 The civil war continues. The Confederate cruiser Alabama is sunk by the Federal warship Kearsarge off Cherbourg. General Sherman occupies Savannah. Austro-Prussian war with Denmark ended by the treaty of Vienna. Circassia is conquered by the Russians. War between Peru and Spain. The Taiping rebellion in China suppressed.

1865 Civil war ended by the surrender of General Lee, April 9. President Lincoln assassinated, April 14. Proclamation of amnesty issued, May 29. The Thirteenth Amendment added to the Constitution, December 18, abolishes slavery in the United States. Fenian rebellion in Ireland. Paraguay declares war against Argentina, and creates an alliance between Brazil, Uruguay, and Argentina.

1866 Fenian invasion of Canada. Prussian and Italian war against Austria. Austria defeated, signs the peace treaties of Prague and Vienna. Venetia united to Italy. The German Confederation dissolved. The North German Confederation formed. Chile, allied with Peru, is attacked by Spain, and Valparaiso and Callao bombarded. First successful ocean telegraph cable laid.

1867 Russia sells Alaska to the United States. The Suez Canal is opened to navigation. Mexico is evacuated by the French, and Maximilian, captured by the native forces under Juarez, is shot. The Austrian empire is reconstructed on a dual basis and the Hungarian Constitution restored. North German Federal Constitution adopted. Unsuccessful campaign of Garibaldi against Rome. Reconstruction contest between President Johnson and Congress.

1868 The Fourteenth Amendment, extending the suffrage to colored citizens, becomes part of the Constitution. British expeditions into Abyssinia. Revolution in Spain and defeat of the Royalists. Insurrection in Cuba. Overthrow of the shogunate of Japan. Defeat of Paraguay. President Johnson impeached by Congress; acquitted on trial.

1869 The Pacific Railway completed. Official opening of the Suez Canal. General Grant becomes President. Railroad to the Pacific completed.

1870 The Fifteenth Amendment adopted as part of the Constitution. Reconstruction of the Southern States. The offer of the Spanish crown to Prince Leopold of Hohenzollern-Sigmaringen is opposed by France, which declares war against Prussia. Defeat of France. Napoleon III. deposed. French republic proclaimed. German empire declared. Amadeus, duke of Aosta, son of Victor Emmanuel, elected king of Spain. Papal states annexed to Italy. Mont Cenis tunnel completed.

1871 William of Prussia proclaimed emperor of Germany at Versailles. The Germans enter Paris, March 1. Treaty of Frankfort, May 10, ends Franco-German war. The War of the Commune in Paris suppressed by the Versailles army after the Communists had burned many fine public buildings, and shot Archbishop Darboy and other hostages. Emancipation of slaves in Brazil. Great fire in Chicago, October 8-10.

A.D.

1872 The Alabama arbitration committee at Geneva awards damages to the United States. The emperor of Germany settles the San Juan boundary question adversely to Great Britain. Outbreak of the Modocs. Jesuits expelled from Germany. The British Parliament passes the Ballot Act. Revolt in Spain in favor of Charles VII. (Don Carlos).

1873 Napoleon III. died, January 9. King Amadeus of Spain abdicates, and a republican government is formed. Egypt receives autonomy. Russia occupies Khiva. British troops defeat the Ashantis. Representations to Spain over the capture of the steamship Virginius result in its surrender to the United States government. Holland makes war against the Atchinese. Financial panic in the United States.

1874 Coup d'état of General Paria in Spain. Alfonso XII., son of ex-Queen Isabella, proclaimed king. Fiji islands annexed by Great Britain.

1875 Great Britain gains financial control of the Suez Canal. The Carlist insurrection in Spain suppressed. Egyptian-Abyssinian war.

1876 Russia annexes Khokand. Centennial Exposition at Philadelphia. Turkish atrocities in Bulgaria. Queen Victoria proclaimed empress of India. General Custer and his command of 300 troops massacred by the Sioux. Egyptians defeated by the Abyssinians. The Transvaal Boers defeated by the Kaffirs. The telephone perfected.

1877 Porfirio Diaz becomes president of Mexico. The Japanese Samurai revolt crushed near Kagosima. Russo-Turkish war. The British annex the Transvaal republic. Stanley explores the Congo river. The electoral commission decides in favor of President Hayes.

1878 The Russians occupy Adrianople. A British fleet enters the Dardanelles. The British occupy Cyprus under a convention with Turkey to uphold the integrity of the Ottoman empire. The Congress and Treaty of Berlin. A Russian embassy is received at Kabul, Afghanistan, and a British embassy is refused admission. A British expedition places Yakub Khan on the throne.

1879 Specie payment is resumed in the United States. Chile makes war against Bolivia and Peru. Major Cavagnari, chief of the British embassy, and his suite massacred at Kabul. General Roberts's successful expedition into Afghanistan. The Zulu war in South Africa.

1880 Spain abolishes slavery in Cuba. A treaty with China restricts coolie immigration into the United States. France annexes Tahiti. The Transvaal Boers rise against British suzerainty.

1881 The Panama Canal begun by the French. The Boers defeat British troops and Great Britain agrees to the independence of the Transvaal. French protectorate over Tunis. Revolt in Egypt under Arabi Pasha. President Garfield shot.

1882 Lord Frederick Cavendish and Mr. T. A. Burke, secretary and under-secretary for Ireland, murdered in Phœnix Park, Dublin. Europeans massacred in Egypt. Alexandria bombarded by a British fleet, Arabi Pasha and his forces defeated, and Cairo occupied by the British. The French Tonquin expedition.

A.D.

1883 The Civil Service Bill passes Congress. France establishes a protectorate over Anam. French aggression in Madagascar. An Egyptian army under Hicks Pasha is annihilated by the Mahdi. The Brooklyn Bridge completed.

1884 Convention between Great Britain and the Transvaal Republic signed in London. Merv annexed by Russia. War between France and China. Grover Cleveland, first Democratic President since 1864, elected.

1885 Khartum captured by the Mahdi and General Gordon killed on the approach of British troops under Lord Wolseley. Russian-Afghan-Indian difficulties settled by British concessions. Louis Riel heads a second revolt in Canada, is captured and hanged. War between England and Burmah. War between Servia and Bulgaria.

1886 Upper Burma annexed by Great Britain. Labor troubles in the United States and socialist riots at Chicago and Milwaukee. Greece threatens Turkey and the Great Powers blockade Greek ports.

1887 General celebration of Queen Victoria's Jubilee throughout the British Empire. Centenary of the United States Constitution celebrated. Great Britain annexes East Zululand. Anglo-French convention neutralizes the Suez Canal.

1888 Canadian Fisheries Treaty signed in Washington. Defeat of the Italians by the Abyssinians. President Cleveland recommends retaliatory measures against Canada. The Imperial British East Africa Company is chartered. The Boulangist agitation in France.

1889 Japan receives a new constitution. The Johnstown flood destroys millions of dollars worth of property and over 2,250 lives. The British South Africa Company is chartered. Brazil revolts, deposes the emperor, and proclaims a Republic.

1890 Great Britain transfers Heligoland to Germany in return for African concessions. The McKinley Tariff Bill becomes law.

1891 Revolution in Chile. Australasian Federal Convention at Sydney. Triple Alliance renewed for six years.

1892 The Bering Sea modus vivendi ratified. Great fire at St. Johns, Newfoundland. French forces defeat Behanzin, king of Dahomey. The Panama scandals in France.

1893 Chicago's World Fair. French ultimatum to Siam accepted. South African Matabele war. Matabeleland opened to colonization. Brazilian rebels bombard Rio. Business depression begins in United States.

1894 Great railway strike at Chicago. Chino-Japanese War. British protectorate established in Uganda. Captain Dreyfus convicted of treason against the French government.

1895 Treaty of Shimonoseki ends Chino-Japanese War. French campaign in Madagascar. Italy defeated in Abyssinia. President Cleveland's Venezuelan message to Congress. Dr. Jameson's abortive raid in the Transvaal.

1896 British Ashanti expedition occupy Kumasi. Settlement of the Anglo-French complications over Siam. General Weyler takes command of Cuba to suppress the rebellion. Italian defeat at

A.D.

Adua, Abyssinia. Peace signed between Italy and Abyssinia. France annexes Madagascar. Anglo-American agreement over the Venezuelan difficulty.

1897 Olney-Pauncefote arbitration treaty rejected by the United States Senate. A Greek force lands in Crete and an international force is sent by the Powers. Turkey declares war against Greece, and Greece, defeated, accepts the intervention of the Powers. Canada introduces a differential tariff bill. The Yukon gold rush commences. Queen Victoria's Diamond Jubilee. Famine and plague in India.

1898 The battleship Maine blown up in Havana harbor. The Spanish-American war. Annexation of Hawaii. Occupation of the Philippines, Cuba, and Porto Rico. Spanish-American treaty of peace signed at Paris. The Dreyfus agitation in France. Reconquest of the Sudan, the Khalifa defeated at Omduram. The Fashoda affair complicates Great Britain and France. China leases Port Arthur and Dalny to Russia. Chile and Argentina agree to perpetual peace and arbitration.

1899 Hostilites in Samoa. Hostilities in the Philippines between the United States troops and natives. The first Hague Peace Conference. The Boers invade Natal and begin the South African War.

1900 The Hay-Pauncefote treaty amends the Clayton-Bulwer treaty concerning the construction of the Central American trans-isthmian canals. Great Britain annexes the Transvaal and Orange River republics. The Boxer rebellion in China, siege and relief of the foreign legations. Russia occupies Manchuria. Australia becomes a commonwealth.

Twentieth Century.

1901 Queen Victoria died, January 22. Edward VII. proclaimed king of Great Britain and Ireland and emperor of India. The Hague Court of International Arbitration organized. Pan-America exposition opened at Buffalo. Norway confers the franchise on women tax-payers. Venezuela repels the Colombian invasion. Diplomatic complications between France and Turkey. President McKinley shot, Sept. 6, died Sept. 14. Pan-American Congress in the city of Mexico. Secretary Hay and Lord Pauncefote sign the Isthmian Canal Treaty.

1902 Congress receives report of Isthmian Canal Commission recommending purchase of Panama Canal Company rights for $40,000,000. Anglo-Japanese alliance to preserve the integrity of China and Korea. Victor Hugo centenary in Paris. The first congress of the Cuban Republic in Havana. Eruption of Mount Pelee and destruction of St. Pierre, Martinique. Peace treaty between the Boers and British signed. The Hague tribunal decides the Pius Fund controversy in favor of the United States. King Oscar of Sweden decides the Samoan dispute in favor of Germany and adversely to Great Britain and the United States. Denmark rejects a treaty to cede the Danish West Indian islands to the United States. Reciprocity treaty between Newfoundland and the

A.D.

United States. The remains of Christopher Columbus removed from Cuba to a mausoleum in Seville Cathedral, Spain. The Venezuelan embroglio; the case submitted to the Hague Tribunal.

1903 Panama Canal Treaty negotiated with Colombian representative rejected by the Colombian Senate. Department of Commerce and Labor formed. Kishineff massacre. Assassination of the king and queen of Servia. American Pacific cable opened to Manila. Death of Pope Leo XIII.; election of Pope Pius X. International Wireless Telegraphy Congress at Berlin. Russia fails to evacuate Manchuria and disregards Japan's representations. Alaskan Boundary Commission decides in favor of United States. The State of Panama secedes from Colombia and becomes a republic. Isthmian Canal Treaty signed between Panama and the United States. Treaty of commercial reciprocity with Cuba.

1904 Russo-Japanese War. Great battles at Liaoyang and Mukden; siege of Port Arthur. Great fire in Baltimore; damage estimated at $50,000,000. Anglo-French treaty settles Newfoundland, African and other disputes. Louisiana Purchase Exposition at St. Louis. Excursion steamer General Slocum burnt at New York; 1,000 lives lost. British expedition reaches Lhassa, capital of Tibet. New York rapid transit railway opened.

1905 Fall of Port Arthur. Russians defeated at Mukden. Battle of Sea of Japan, annihilation of Russian fleet. Treaty of Portsmouth, N. H., ends Russo-Japanese War. Naval and civil rebellion in Russia. Simplon tunnel opened. Alberta and Saskatchewan new provinces of Canada. Parcels post treaty signed between Great Britain and the United States. Norway separates from Sweden. John Paul Jones's body brought from France to the United States. Anglo-Japanese treaty of alliance renewed. Violent revolutionary outbreaks in Russia.

1906 Pan-American conference at Rio Janeiro. Japan provides for government ownership of railroads. Eruption of Mount Vesuvius destroys many villages. Earthquake and fire destroy two-thirds of the city of San Francisco. A lock canal for Panama. Turkish-Egyptian dispute in Arabia. Franco-German-Morocco embroglio settled by the Algeciras conference. German war with the natives in Southwest Africa. First Douma, or parliament, opened in Russia, May 10; dissolved, July 21. Albert Dreyfus vindicated and restored to rank in army. Norway independent; Haakon VII. crowned king. Parliament opened in Persia. Chinese restriction of the opium traffic. War of Central American republics. Earthquake destroys greater part of Valparaiso. Separation of Church and State in France. Peary reaches 87° 6′ north latitude, within 200 miles of the North Pole.

1907 The Interstate Commerce Commission arraigns corporations for violation of the anti-trust laws; the Standard Oil Company found guilty of accepting rebates on 1467 counts. Great frauds discovered in the furnishing of the Capitol at Harrisburg. The tercentennial of the settlement at Jamestown celebrated by an exposition. Kingston, Jamaica, destroyed by an earthquake, January 13. Mayor Schmitz, of San Francisco, convicted of peculation in office, and sent to prison. Much progress in forest reserves and in irrigating the arid region. Two-cent railroad fare

A.D.

bills passed in many States; vetoed in New York. Second Russian Douma meets, March 5; is dissolved in June. Seventy women suffragists arrested in London for violent demonstrations. Under full woman suffrage laws nineteen women are elected to the Diet of Finland. Universal suffrage in Austria leads to great triumph of the Socialists. New Parliament opened in the Transvaal. Violent outbreaks of wine growers in Southern France. Hostile demonstrations against British rule in India. Law passed excluding Japanese from the United States except under passport. Reform movement in China overthrows old educational and military systems. The second Hague conference meets.

1908 Congress remits $13,000,000 of Chinese Boxer indemnity. United States Supreme Court declares prohibition of discrimination against members of labor organizations unconstitutional. King Carlos and Crown Prince Luiz of Portugal are assassinated in Lisbon; Manuel II. proclaimed king. First tunnel under the Hudson at New York opened. France and Germany reach agreement on Morocco. Over 10,000 suffragettes make demonstration in London. United States severs diplomatic relations with Venezuela. Standard Oil Company's $29,400,000 fine is set aside. Sultan of Turkey restores Constitution. Belgium annexes Kongo. Bulgaria declares independence; Powers unite to prevent war. William H. Taft elected President. Emperor William agrees not to interfere in German foreign affairs. Jose M. Gomez elected President of Cuba. United States and Japan agree on Pacific Ocean affairs.

1909 Austria annexes Bosnia and Herzegovina. Americans evacuate Cuba. Sultan of Turkey and Shah of Persia are deposed; Mehmed V. becomes Sultan. American battleship fleet completes 42,000-mile world cruise. Severe anti-Moorish war rioting in Spain. President Taft signs new tariff bill. Over 150 British warships are reviewed on the Thames. British Parliament passes South African Union bill. Dr. Frederick A. Cook reports reaching North Pole on April 21, 1908; Commander Peary reports same on April 6, 1909; scientists credit Peary. American warships are ordered to Nicaragua. Great international Hudson-Fulton celebration at New York. Presidents Taft and Diaz meet at El Paso, Texas, and Ciudad Juarez, Mexico. Execution of Prof. Francisco Ferrer, Barcelona, Spain, causes widespread condemnation. Lieut. Ernest H. Shackleton, British Navy, reports advance to within 111 miles of South Pole. Andrew Carnegie gives $1,000,000 for French hero fund, and John D. Rockefeller the same to fight hook-worm disease.

1910 British elections favor Liberals. Spanish-Vatican relations become strained. Paris suffers heavy damage from flood. The Hague Tribunal meets. King Edward VII. dies; George V. succeeds. Thirteenth American census is taken. South African Union is proclaimed. Congress authorizes admission of Arizona and New Mexico to Statehood; passes Postal Savings Bank bill; places railroad rates and telegraph and telephone services under government control; creates Court of Customs Appeals and Bureau of Mines. Chief Justice Fuller dies. Governor Hughes is appointed to the United States Supreme Court. Pan-American Conference meets at Buenos Ayres. Great progress in aerial navigation. Ameri-

A.D.

can census shows population, continental, 91,972,266, with all possessions, about 101,100,000. In the North Atlantic coast fisheries arbitration with Great Britain at The Hague the United States gains the relief sought. Chinese government agrees to grant constitutional reforms in the near future. Kingdom of Portugal is overthrown and republic proclaimed. France proposes to prevent strikes by compulsory arbitration. British general elections result in government gain of two only in Parliament. State elections in the United States give the Democrats widespread gains, with control of the House of Representatives and increased strength in the Senate in the 62d Congress (1911–1913). Mrs. Mary Baker Glover Eddy, founder of Christian Science, dies. President Taft promotes Associate Justice Edward D. White (La.) United States Supreme Court to be chief-justice, and appoints Judges Joseph R. Lamar (Ga.) and Willis Van Deventer (Wyo.) associate justices of the court.

1911 Over 1,400 persons in Adams county, Ohio, are indicated for selling their votes at the November elections. French Institute decides against eligibility of women for membership. Portugal agrees to allow ex-King Manuel the revenues of the Braganza family's properties. Representatives of the United States and Canada meet in Washington, D. C., and reach agreement on long-standing fisheries controversy. Twenty-five men and one woman are sentenced to death for conspiring against the lives of the Japanese imperial family and officials. Manchuria is ravaged by the plague. John Redmond is again elected president of the United Irish League. President Taft asks Congress for $5,000,000 to begin fortifying the Panama Canal entrances. King George V is crowned. Revolution in Mexico results in resignation of President Diaz. Duke of Connaught becomes governor-general of Canada. U. S. Supreme Court decides against Standard Oil and other trusts. Canadian elections defeat reciprocity agreement with the United States. Revolution breaks out in China, and the throne grants demands for immediate constitution. The Pope elevates Mgr. Falconia, Apostolic Delegate to the United States, Archbishop John M. Farley, of New York, and Archbishop William H. O'Connell, of Boston, to the cardinalate. Italy declares war against Turkey. California gives the suffrage to women. H. W. Gill, at St. Louis, breaks American aviation endurance record by remaining up 4 h. 16 m. 35 s. Wireless messages are flashed between San Francisco and Hokushu Island, Japan, 6,000 miles. The Athletics of Philadelphia win the world's baseball championship over the Giants of New York. President Taft reviews the Atlantic Fleet of 100 war vessels at New York. Calbraith P. Rogers makes flight in aeroplane from New York to Pacific Coast, breaking world's distance record. Francisco Madera inaugurated President of Mexico.

1912 Arizona and New Mexico admitted to Statehood. President Madera of Mexico is not successful in tranquilizing the American frontier. Consequently large forces of American troops patrol the Rio Grande, with orders to fire upon the Mexicans if Mexican bullets reach the American shore. The war between Italy and Turkey leads to severe fighting, especially at Tripoli and various cities of Asia Minor, Beirut being shelled by the Italian warships. These also sink a number of Turkish vessels. Turkey appeals to the Powers, asking their intervention. The King

A.D.

and Queen of England return from the great Indian Durbar. In February the so-called Suffragettes arrange for a great demonstration in London, which is, however, suppressed by the entire police force who make more than a hundred arrests for acts of minor violence. The Crown lawyers apply the law of conspiracy to the meetings of Suffragettes, so that the police can enter their private assemblies. Colonel Roosevelt announces to a gathering of Republican Governors, that he is willing to accept a nomination or election to the Presidency. Roald Amundsen, a Norwegian, reports his discovery of the South Pole. New aviation record from London to Paris in three hours. The Titanic, the largest steamship ever built, collided with an iceberg and was sunk off the coast of Newfoundland on her maiden voyage to New York, with a loss of over 1,500 lives. National political conventions: Republican, Chicago, renominates Taft and Sherman; Democratic, Baltimore, nominates Governor Woodrow Wilson (N. J.) and Governor Thomas R. Marshall (Ind.); Prohibition, Atlantic City, renominates Chafin and Watkins; Socialist, Indianapolis, renominates Debs with Emil Seidel. Roosevelt adherents bolt in Republican National Convention, organize new Progressive party, and nominate Roosevelt with Governor Hiram W. Johnson (Cal.). Italy and Turkey make peace (Oct. 19); Turkey loses Tripoli; Italy pays large indemnity. Bulgaria, Servia, Montenegro, and Greece declare war against Turkey; general Turkish disaster; Turkey asks Powers to mediate. Largest American naval fleet ever mobilized reviewed by President at New York. Great Britain protests against toll exemption clause of Panama Canal Bill. United States sends naval force to Nicaragua; several marines killed by revolutionists. Mexican revolution continues throughout the year; United States sends several warnings to government and more troops to border line. Unsuccessful attempt to assassinate former President Roosevelt at Milwaukee (Oct. 14). Police scandal in New York; Lieut. Charles Becker found guilty of murder of Herman Rosenthal, gambler (Oct. 24). Trial of forty-seven defendants in alleged country-wide dynamite conspiracy, Indianapolis. World's series of base-ball games between New York and Boston clubs won by latter. Vice-President John S. Sherman died (Oct. 30). Governor Woodrow Wilson elected President on the Democratic ticket, defeating President William H. Taft on the Republican and Theodore Roosevelt on the Progressive tickets.

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For Table of Contents, See Next Page

Table of Contents

A Dictionary of Commercial and Legal Terms
Declaration of Independence
Constitution of the United States
The Presidents of the United States
The Names of the States and Their Meaning
The Nicknames of the States and the Reason
Legal Holidays in Various States
The Wealth of the World
Money in Circulation in the United States
The Electoral Vote of Each State
The Value of Foreign Coins in Money of the United States
Facts About the Earth
Wedding Anniversaries
The Metric System of Weights and Measures
The Army of the United States
The Navies of the World
Time Difference
The Armies of the World
The Decisive Battles of the World
The National Debts of the World
Libraries of the World
Christian Names of Men
Christian Names of Women
Nicknames of Famous Personages
Famous Characters in Poetry and Prose
Familiar Allusions
A Manner of Forecasting the Weather
The Language of Flowers
The Language of Gems
Birth Stones
Birth Days
United States Census
Canadian Census
Population of the World

A Dictionary of Commercial and Legal Terms.

Edited by

ROBERT ARROWSMITH, Ph.D.

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A

A. On endorsements = Audited, Accepted, or Approved.
a, @. = at; as 5 yds. @ 24 cts.

A_1. Originally a symbol used by Lloyd's Register of British Shipping, in which the hull is rated by letters, the equipment by figures.

Abandonment. In marine insurance, the giving up to the insurers of property partly destroyed, with the purpose of claiming full insurance.

Abatement. An amount deducted; a discount; removal of a nuisance.

Abeyance. Suspense, as an unsettled estate held in abeyance.

Abrogate. To repeal, annul; abolish; destroy.

Abstract. Abridgment or summary of a document.

Acceptance. Agreement to terms proposed; engagement to pay, made by the person on whom a draft, bill of exchange, or other order is drawn. The order when it has been accepted.

Acceptance supra Protest or for Honor. Agreement to pay a note or bill protested to preserve the honor of the maker or endorser.

Acceptor. The one who accepts a draft, bill of exchange or other order.

Accession. Acquiring.

Accessory. One who instigates, abets, or aids the offense of another.

Accident Insurance. Insurance against personal injury by accident.

Accommodation Endorser. One who endorses accommodation paper.

Accommodation Paper. Commercial paper not founded on an actual trade transaction but drawn in order to be discounted for the benefit of one or all of the drawers, acceptors or endorsers.

Accord and Satisfaction. Settlement of a claim by agreement to accept one thing in place of the originally claimed.

Account (Acct., %). A statement of business dealings between individuals or firms.

Account Current. A running account; a statement of transactions between firms or individuals, generally in the form of a summary of debits and credits.

Account Sales. The itemized statement of a broker or commission agent to his principal, showing the quantity of goods sold, prices, charges, commissions and net proceeds.

Accountant. An expert examiner or adjuster of accounts.

Accroach. To attempt to use power without authority.

Accrue. To increase; be due.

Acknowledge. To admit the receipt of correspondence, remittance or order.

Acknowledgment. A receipt. A formal declaration made before a competent officer by one who executes an instrument that it is his voluntary act.

Acquittance. A written receipt or discharge from all claims in full.

Act. A formal writing expressing what has been done. The enactment by a legislative body or court.

Act of God. A physical cause of injury which cannot be prevented by

human means, such as tempest, lightning, earthquake, etc.

Action. A suit or process at law.

Adjudicate. To settle by legal process.

Adjustment. Settlement of legal claims and disputed accounts.

Ad Litem. [Lat.] For a law suit. A term applied to a guardian or representative of a widow or other person not competent to appear personally before a court.

Administer. To settle an estate.

Administrator (Admr.), Administratix (Admx.). An officer appointed by the court to settle the estate of an intestate or in the absence of a qualified executor.

Admiralty Court. A court having jurisdiction in maritime questions.

Ad Valorem. [Lat.] According to value. Ad Valorem duties are estimated on the basis of the value of the imported article, not according to weight, measure, etc. (specific duties).

Advance. Rise in value. To pay or furnish money before it is due.

Adventure. A speculation. The shipment of goods on shipper's own account.

Adventure, Bill of. A declaration signed by the master of a ship which carries goods at the owner's risk.

Adventure in Co. Shipment of goods at joint risk of shipper and consignee.

Adverse Possession. The holding of real property contrary to the claim of another.

Advice. Commercial notice sent by letter, called Letter of Advice.

Affiant. One who makes an affidavit.

Affidavit. A written declaration under oath.

Affiliation. The determining of the paternity of a child.

Affinity. Relationship by marriage.

Affreightment. The hiring a ship for transportation of goods.

Age of Consent. The age at which minors may enter into a valid contract of marriage.

Agency. The relation to his principal of one authorized to act for another.

Agent. One who acts for another.

Aggravation. A circumstance which enhances crime or increases danger.

Agio. [Ital.] Difference in value between current and standard moneys, as between bank notes and gold.

Agiotage. Speculation on the fluctuation of public securities.

Agrarian. Relating to land or its tenure.

Agreement. A contract or bargain.

Alias. [Lat.] Otherwise. An assumed name.

Alien. One of foreign birth not naturalized in the country of his residence and owing allegiance to a foreign power.

Alienate. To transfer property.

Alienation. Conveyance of title.

Alienation Clause. In fire insurance policies, a clause rendering the policy void if the property insured is sold or transferred.

Alimony. In divorce law, a provision made by the court from her husband's income or estate for the support of a wife.

Aliquot Part. A number contained an exact number of times in a larger number.

Allegation. A statement of what a party undertakes to prove. The charge undertaken to be proved.

Allegiance. The obligation due from a citizen to his government.

Allonge. [Fr.] A slip of paper attached to a note or bill of exchange to allow space for more endorsements.

Allotment Ticket. An order for the payment of a specific portion of a seaman's wages to his family at stated intervals during a voyage.

Allow. To concede, discount, deduct.

Allowance. Deduction from weight or amount. Sailor's rations.

Alloy. [Fr.] Baser metal compounded with a finer. The union of different metals. In coinage, gold is alloyed with silver or copper; silver with nickel, brass or copper.

Alluvium. The gradual increase of the shore of a stream formed by deposits carried by the water.

Amotion. A turning away or removal.

Amount Gross. The sum total or aggregate.

Amount Net. The sum total less deductions for expenses, discount, or charges.

Ancestor. In law the term includes collaterals as well as lineals.

Anchorage. A spot where ships may anchor safely. A toll or fee for anchoring.

Ancillary. Auxiliary.
Anker. A foreign liquid measure of about ten gallons.
Annex. To take for permanent holding; fixtures are annexed to the realty.
Annuity. A sum of money paid yearly or at fixed intervals.
Annul. To make void.
Answer. To reply; be responsible for. In law, a reply to a charge.
Antedate. To date before the true time.
Appeal. In law, to apply for a review of a cause.
Appearance. In law, the coming into court or formal submitting to a court's jurisdiction by a person summoned.
Appellate Court. A court having power to review the decisions of lower courts.
Apply. To dispose of, as to apply funds in payment of a note.
Appraise. To place a value on property.
Appraiser. One who appraises. A government officer who fixes the value of dutiable articles.
Appreciate. To increase in value.
Apprentice. One legally bound out to another to learn a trade.
Appropriation. A government grant of money for a specific purpose.
Approval. A sale on approval is conditional on the approval of the purchaser, who may return the goods if not satisfactory.
Appurtenance. In law, a thing or right that goes with the land, as a right of way.
Arbitration. The adjustment of disputed points by disinterested persons chosen by the contending parties.
Arbitration of Exchange. Computation of the difference in rates of exchange among bankers in three or more countries, to discover whether it is more profitable to forward money directly or indirectly.
Arrest. To take a person or property into legal custody.
Arson. The malicious burning of a building or of a ship.
Article. A single piece of goods. A written agreement or contract, as articles of co-partnership. Division of a document.
Articles of War. A code of rules and regulations for the government of army and navy.
Assault. A civil and criminal offense, consisting in the attempt or offer to do bodily hurt.
Assay. To test the proportion of alloy in metals.
Assess. To value; to fix a rate; to levy a tax or share of expenses.
Assets. Resources available for the payment of debts; opposed to liabilities.
Assign. To transfer or make over property or rights to another.
Assignee. One to whom an assignment is made. A trustee for the creditors of a bankrupt estate or insolvent debtor.
Assignment. A transfer of property to an assignee.
Assignor. One who assigns property.
Assizes. [Eng.] The sessions of a court for jury trials held periodically in the various counties of England.
Association. A body of men. A business or stock company.
Assortment. A quantity of goods varying in quality.
Assumpsit. An undertaking based on a consideration. An action to recover damages for breach of contract.
Assurance. See insurance.
Attachment. A seizure made by order of a court to bring property or a person into its custody.
Attest. To certify, witness by signature.
Attorn. To agree to become tenant to one not the original landlord but who claims the reversion.
Attorney. An agent legally appointed by another. An officer of the court. A counselor.
Attorney, Power of. Written authority empowering one person to act for another.
Attorney General. The chief law officer of the government.
Attorney in Fact. One acting under power of attorney.
Auction. Public sale of property to the highest bidder.
Audit. To examine and certify accounts and vouchers.
Auditor. One authorized to examine accounts. An officer of the United States Treasury.
Aver. To declare or assert formally.
Average. Mean value or quality. A

fair sample. Equitable distribution of expense or loss. Formerly a charge in addition to freight paid by the shipper to the ship's master for care of the goods.

Average, General. In marine insurance, a proportionate charge on ship and goods to cover the necessary sacrifice of a part.

Average, Particular. The loss sustained by partial damage of ship alone, or of cargo alone, arising from ordinary wear and tear or mishaps and not involving the general safety.

Average, Petty. Small charges, such as pilotage, port charges, and the like, borne in part by ship and in part by cargo.

Average of Payments. The method of determining the time when the payment of one sum may be made of several sums due at different dates without loss to either party.

Avoid. In law, to nullify, annul.

Avulsion. Lands removed by the sudden action of water from one estate and added to another.

Award. A decision by arbitration.

B

Bail. To set free by becoming surety for the appearance in court of the person to be tried. The amount pledged.

Bailee. One to whom goods are delivered under a contract of bailment.

Bailment. The delivery of goods to another in trust for some purpose.

Bailor. One who delivers goods under a contract of bailment.

Balance (Bal.). Difference necessary to make the two sides of an account equal. Weighing scales.

Balance Account. An account made up of balances of different accounts. A brief summary of the condition of a business.

Balance Sheet. A paper showing a summary of open accounts.

Balance of Trade. The difference in value between the total exports and imports of a country.

Ballast. Weight used to steady a ship. To load with ballast instead of cargo.

Bale. A corded package of goods for transportation.

Banco. In some parts of Europe, the difference between bank value and depreciated current value of money.

Bank. An institution for the deposit, discount and circulation of money.

Bankable. Receivable at par at a bank.

Bank Bill or Note. A promissory note printed by the government and issued by national banks, used as money, and payable on demand.

Bankbook. Passbook of a bank in which deposits are recorded and paid checks entered.

Bank Draft. A bill of exchange drawn by one bank on another bank.

Bank Hours. Usually from 9 or 10 A. M. to 3 P. M.

Bankrupt. One unable to pay his debts. One who fails in business.

Bankruptcy. The condition of being adjudged bankrupt by the court.

Bank Stock. Shares in a banking company. Paid up capital of a bank divided into shares.

Bar. A final defense. A plea defeating an action. The whole body of licensed lawyers. The legal profession.

Bargain. A stipulation. An agreement of sale.

Barratry. In maritime law, breach of duty or trust by master or crew, as against owners or insurers. In common law, the malicious encouragement of litigation.

Barrel. A measure of capacity, containing 31½ gallons, wine measure; 30 gallons, beer measure; 32 gallons, ale measure; 196 pounds of flour; 224 pounds of butter; 200 pounds of pork or beef. The dry barrel is not a legalized measure.

Barrel Bulk. In freight measurement, 5 cubic feet.

Barrister. The title of a lawyer practicing in the higher courts of England and Ireland.

Barter. To exchange goods for another kind of goods instead of money.

Base Court. An inferior court, not one of record.

Battery. The actual doing of the personal hurt attempted by assault.

Bear. A speculator who strives to depress the price of stocks.

Bearer. One who holds and presents a note, bill, check or draft for payment. Negotiable paper drawn payable to bearer need not be endorsed.

Bench. The seat for judges. The court. The whole body of judges as distinguished from the bar.

Bench Warrant. A warrant issued by a superior court judge.

Beneficiary. The person to whom a life insurance policy is made payable. The person for whose benefit another holds title to real estate.

Bequeath. To give by will.

Bequest. The act of giving by will. The thing given by will.

Bill. A statement of accounts due. A general term for negotiable paper. In law, the statement of particulars.

Bill Book. An account kept in bookkeeping of notes, drafts, and bills of exchange.

Billhead. A printed form of bills, with business address.

Bill of Discovery. Application to a court of equity to compel a party to an action to disclose facts or documents in his possession.

Bill of Entry. An account of goods entered at the custom-house for importation or exportation.

Bill of Exceptions. A written statement of exceptions to the decision of a court.

Bill of Exchange. A written order for the payment of money, usually drawn on a person living in a foreign country.

Bill, Domestic or Inland. A bill of exchange payable in the country where drawn; usually termed draft.

Bill of Lading. A written statement of goods received for transportation, signed by the carrier's agent, and given to the shipper.

Bill of Parcels. An account given by seller to buyer of the value of goods bought. Sometimes used for invoice.

Bill of Particulars. A document detailing the demands for which an action is brought.

Bill of Sale (B/S). A written agreement under seal transferring ownership of personal property.

Bills Payable. Bills Receivable. Commercial paper called bills receivable by the holder, and bills payable by the one who is to pay them.

Blackmail. Extortion of money by threats.

Blank Credit. Authorization to draw money on account without limitation of the amount.

Blank Endorsement. Endorsement which does not specify the person to whom payment is to be made.

Blockade. To obstruct an enemy's port.

Board of Trade. An association of business men for the regulation and advancement of commercial interests.

Bona Fide. [Lat.] In good faith.

Bond. A legal document by which a person binds himself to pay money or perform a certain act under penalty of paying a specified sum.

Bond Creditor. A creditor whose debt is secured by a bond.

Bond Debt. A debt contracted under obligation of a bond.

Bonded Goods. Goods stored in bonded warehouses or bonded cars, on which bonds instead of cash have been given for import duties or internal revenue.

Bonded Warehouse. A building owned by approved persons who have given bonds or guarantee for the strict observance of the revenue laws; used for storing dutiable merchandise until the duties are paid or the goods re-shipped without entry.

Bondsman. One who gives security for another.

Bonus. A premium given on a loan or for a favor shown.

Book Debts. Accounts charged on the books.

Bookkeeper. One in charge of mercantile accounts.

Bookkeeping, Single Entry. A simple system of bookkeeping which requires only one entry for a single transaction. Used chiefly in retail business.

Bookkeeping, Double Entry. The system of bookkeeping which requires for every transaction two entries, one on the debit and one on the credit side.

Borough. An incorporated village or town not a city.

Bottomry. The act of pledging a vessel for sums advanced for the use of the ship. If the ship is lost, the lender loses the whole amount of his loan.

Bought and Sold Notes. Memoranda given by a broker to his principal announcing particulars of the purchase or sale of commodities for

the account of the principal.

Bounty. A bonus or premium given to encourage a special industry or as an inducement to enter public service.

Brand. A mark of designation; a trade-mark, device, or name; a particular class of goods.

Breach. Violation of an agreement.

Breadstuffs. Any kind of grain, corn or meal from which bread is made.

Breakage. The allowance made by a shipper for loss caused by the destruction of fragile wares.

Breaking Bulk. Opening packages of goods in transit.

Breaking in. In law, any violent act technically constituting burglary.

Brief. A concise legal summary or statement of a client's case, or of a law argument.

Broker. An agent or factor; a middleman paid by commission.

Bull. A speculator who strives to raise the value of stocks.

Bullion. Uncoined gold or silver.

Burden of Proof. The obligation resting on a person asserting a fact to prove it.

Burglary. Breaking into a house at night with felonious intent.

Bushel. A dry measure, 18½ inches in diameter and 8 inches deep inside; its capacity is 2,150.42 cubic inches.

By-Bidder. In auctions, one employed to make bids in order to raise the price of articles to be sold.

By-Laws. Private regulations made by a corporation or municipality for its government.

C

Cabinet. The advisory council of a sovereign or president. The body of ministers who direct the government.

Calculate. To determine by reckoning.

Call. A demand for payment of instalments due on stock or unpaid contributions. A request to holders of bonds drawn for redemption to present them for payment on a certain date, after which interest ceases. In the Stock Exchange, the privilege to claim delivery of a specified amount of stock at a time and price fixed.

Cancel. To cross out, obliterate anything written (often by stamp or punch); to annul, set aside.

Canon. A rule of ecclesiastical law.

Capias. [Lat.] A writ commanding an officer of the law to take into custody the person named in the writ.

Capital. Money or property invested in business; amount of assets.

Capitalist. One having property to invest; a man of wealth.

Capital Offense. An offense punishable by death.

Capital Stock. The aggregate amount of funds or property invested in a corporation. The total value of stock at par.

Capitation. A poll tax.

Carat, Karat. A measure of weight (= 3⅕ grains) for gold and precious stones. The measure of the proportionate fineness of gold, pure gold being rated at 24 carats.

Cargo. Merchandise laden on a ship for transportation.

Carrier. One who transports goods or persons for hire.

Cartage. The amount paid for carting goods.

Carte Blanche. [Fr.] Free or unlimited powers.

Case. A box for holding goods or merchandise; the amount of its contents. In law, an action or suit.

Case, Action on the. A general common law form of action.

Cash. Ready money; gold, silver, bank-notes, usually including checks and drafts.

Cash Book. A book registering money paid in and out.

Cash Sales. Sales for cash in distinction to sales on credit.

Cashier. One in charge of the money of a business house or bank.

Cassation. [Fr.] Annulling, reversal.

Casualty Insurance. Accident insurance.

Caveat. [Lat.] A legal notice filed to prevent a proceeding except after notice. In patent law a caveat entitles an inventor to notice of competing applications for patents during one year.

Caveat Emptor. [Lat.] Let the buyer beware. A phrase embodying the principle that a purchaser buys

at his own risk, except for the ordinary legal protection.

Certificate. A writing testifying to some fact. A voucher, as, a certificate of deposit, a certificate of stock.

Certified Check. A check accepted as valid by the bank on which it is drawn. The amount represented by a certified check is withdrawn from the depositor's account and held to meet payment of the check.

Cestui que Trust. [Fr.] One having the equitable interest in property legally held by a trustee.

Challenge. An objection made by the defense or plaintiff to a juror.

Chamber of Commerce. An association of merchants for the encouragement of commercial interests.

Champerty. An agreement on the part of a person to aid in carrying on a suit in which he has no legal interest in return for a share in the thing sued for.

Chancellor. A judge of a Court of Chancery.

Chancery. In England, a court of equity forming a division of the High Court of Justice. In the United States, a Court of Equity.

Charge. A statement by a judge to a jury instructing them in regard to the legal principles involved in the case.

Charter. A government grant empowering a corporation to do business and defining its rights and privileges. The letting or hiring of a vessel.

Charter Party. A written contract for the hire of a vessel for a given voyage.

Chattel. Any kind of property except real estate.

Chattel Mortgage. A mortgage of property other than real property to secure a payment.

Check, Cheque. An order on a bank by a depositor for payment of money.

Check Book. A printed book of blank checks.

Check Clerk. One who examines accounts of other clerks. A bank clerk who enters up checks.

Chose. In law, personal property.

Chose in Action. Personal property to which one has a right enforceable by legal process, but not actual possession.

Chose in Possession. Personal property of which one has actual possession.

Circuit. A judicial district for the administration of law by visiting judges.

Circuit Court. A court sitting successively in different places in its circuit.

Circular. An advertising notice.

Circular Note. A note or letter of credit issued by bankers for the accommodation of travelers, requesting correspondents at different places to pay money on demand.

Circumstantial Evidence. Evidence establishing facts which in common experience tend to prove another fact indirectly.

Civil Action. One involving private rights, not a criminal proceeding.

Civil Court. A court for the trial of civil actions.

Civil Death. The legal status of a living person who has by law forfeited his civil rights, as a convict.

Civil Law. The body of law of a state regulating the civil rights and relations of citizens, as distinguished from military law. The whole system of Roman law. The body of private law developed from the Roman law.

Civil Marriage. One performed by a civil officer, and not by a clergyman.

Civil Rights Act. An act of Congress in 1875 providing for equal enjoyment by all persons, without regard to race, of hotels, public conveyances, etc.

Civil Rights Bill. A bill passed by Congress in 1866 securing equal civil and political rights to all citizens, irrespective of race and previous condition of slavery.

Civil Service. That performed for a state, other than military, naval, legislative and judicial.

Civil Service Act. An act of 1871 under which the President has power to fix qualifications and rules for entering the civil service.

Civil Service Commission. A commission of three members appointed by the President to control appointments to the civil service.

Claims, Court of. A court for the settlement of claims against the state.

Clearance. A Custom House cer-

tificate that a ship has been cleared.

Clearing. Entering a ship at the Custom House and obtaining permission to sail, and the necessary legal papers. In banking, exchange of checks and settling balances.

Clearing House. A banking exchange for the convenience of daily settlements. Drafts and checks are exchanged without presentation at each of the banks represented and a balance is struck, which alone is paid in cash.

Closed Shop. One in which non-union workers are not employed.

C. O. D. Cash or collect on delivery; a method of payment for goods not paid for when purchased.

Code. A systematized body of statute law, as the civil code, penal code. A system of signals or abbreviations.

Collateral. Of the same ancestry but not in lineal descent. A grandson is of lineal, a nephew of collateral descent.

Collateral Security, or Collateral. Pledges of stock, notes, or chattels, as security for payment of indebtedness.

Collector. One authorized to receive money for another. The chief officer of a Custom House.

Commerce. The business of exchanging commodities. Mercantile business in general. In a restricted sense, the shipping belonging to a country.

Commerce, Court of. A court established in 1910 to adjudicate causes arising from the action of the Interstate Commerce Commission.

Commercial Law. The body of law relating to commerce.

Commercial Paper. Bills of exchange, drafts, and notes given in the course of trades.

Commission. A percentage given for the sale or purchase of goods, or for the transaction of business. The authority by which one person transacts business for another. The certificate conferring military or naval rank. A body of men authorized to perform a certain work.

Commission Broker. An agent who buys or sells on commission.

Commissioner. One holding a commission.

Commissioner of Deeds. An attorney or notary authorized to take acknowledgment and administer oaths.

Commitment. Sending to prison. The court order directing the imprisonment of a person.

Common Carrier. One who, as a business, conveys goods or passengers.

Common Law. The ordinary law of a community. Unwritten law, based upon the precedent of usage, as distinguished from written or statute law.

Common Law Marriage. One entered into by consent of a man and woman without civil or ecclesiastical sanction.

Common Pleas, Court of. In some states, a court having jurisdiction in ordinary civil suits.

Common Stock. Ordinary stock not participating in the special advantages of preferred stock.

Company. An association in business. A joint stock concern. A term used in a firm name to designate other partners not specifically named.

Competency. In law, fitness to be heard in court. Authority of a legal officer.

Complaint. A formal statement of charges in a legal action.

Composition Adjustment. Settlement of a debt by payment of a certain percentage.

Compound. To settle a claim by receiving or paying only part of the amount. To undertake, for a consideration, not to prosecute an offender.

Compound Interest. Interest on principal and accrued interest.

Compromise. To agree upon a settlement based on mutual concessions.

Condition Prece'dent. In law, a provision to be fulfilled before an instrument takes effect.

Condition Subsequent. A provision contemplating the extinguishment of a right established in an instrument because of some possible future event.

Consideration. Value received; an equivalent for the act of another.

Consign. To send goods to another for sale or for his own use, or to be cared for.

Consignee. One to whom goods are sent.

Consignment. Goods sent to another.

Consignor. One who sends goods to another.
Consols. The funded government securities of England.
Constitution. A document embodying the principles and fundamental rules of a nation, state, or society.
Constitutional Law. The body of law concerned with the interpretation of constitutions.
Consul. A government agent of one country residing in a city of a foreign country to guard trade interests and the rights of citizens of his country.
Contempt of Court. Disobedience to the rules or orders of a court. Disrespect of court.
Contra. [Lat.] On the opposite side.
Contraband. Prohibited goods or merchandise. Smuggled.
Contraband of War. Articles which by international law may not be provided to belligerents, as munitions or arms.
Contract. An enforceable agreement. A bargain.
Contractor. One who engages to do certain work or furnish goods at fixed rates. A public supply agent.
Contributory Negligence. In law, such negligence on the part of one injured as to form part of the cause of injury.
Conversion. In law, appropriation or unauthorized assumption of rights over another's property. The change from real to personal or personal to real property.
Conveyance. Transference of property. The written instrument by which property is transferred.
Cooperage. Charge for cooper's work on casks or barrels.
Copartnership. The same as partnership.
Copyright. The right granted by government to an author to control the publication of his work.
Corner. The buying up of a large quantity of a commodity to raise the price.
Coroner. A municipal or county official charged with the investigation of deaths apparently due to violence.
Corporation. A group of persons considered in law as a single individual.
Costs. Expenses of litigation imposed by the court, usually on the losing party to a suit.
Counsel. A legal adviser in charge of the conduct of a case.
Count. An individual complete charge in a pleading.
Counter Claim. A claim introduced by the defendant as an offset to the claim of the plaintiff.
Counter Entry. An entry in a contrary sense.
Counterfeit. A forgery. A spurious bank bill.
County Court. A court having jurisdiction within the limits of a county.
Coupon. [Fr.] A certificate of interest attached to bonds or stock, to be detached when due.
Course of Exchange. The sums paid by merchants for bills of exchange in order to make remittances to another country.
Court Martial. A court of officers for the trial of military or naval offenses.
Covenant. A promise contained in a sealed instrument.
Coverture. The legal status of a married woman.
Credentials. Testimonials giving authority.
Credit (Cr.). Trust. The reputation for reliability in meeting obligations; financial standing. The time given for payment for purchases made on trust. In accounts, acknowledgment of value received or transferred, the opposite of debit.
Creditor (Cr.). One to whom money or value is owed. One giving credit.
Criminal Law. The body of law relating to criminal cases, as opposed to Civil Law.
The Curbstone (or **Curb**). A place where brokers who have not seats in the Stock Exchange transact their business in the open street.
Curbstone Broker. A broker who is not a member of the regular Stock Exchange.
Currency. The circulating medium of a country; that which passes for money.
Current. Of money, circulating freely. Of accounts, now running.
Curtesy. The estate of a husband in the lands of his deceased wife if a living child has been born to them.
Custom House. A building where duties are paid and ships entered and cleared.
Customs. Duties imposed on goods exported or imported.

D

Damages. Money compensation for injury received.

Date. Day of the month and year.

Day book. A book for recording daily transactions.

Days of Grace. The time, usually three days, allowed for payment of notes or bills after the time specified has elapsed.

Debase. To lessen in value; as, a debased coinage.

Debenture. A Custom House certificate entitling an exporter to a drawback on duties paid.

Debit (Dr.). To make debtor. The opposite of credit. A charge entered.

Debtor (Dr.). One who owes; the opposite of creditor.

Declaration. In law, the full statement of the plaintiff's claim. A statement accepted from a witness instead of an oath.

Declare. To announce (a dividend). To make a statement of dutiable or taxable property.

Decline. To decrease in value.

Decree. A decision or judgment given by a court of equity, probate, divorce or admiralty.

Deed. A sealed legal instrument, transferring property, usually land.

De Facto. [Lat.]. In fact; actual.

Defalcation. Misappropriation of money; embezzlement.

Default. Failure to pay a debt. Failure to appear in court when called. Judgment by default may be entered against a defendant who neglects to appear.

Defeasance. A condition the fulfillment of which renders a contract void.

Defendant. The one against whom a suit or action is made.

Defense. The defendant's answer to the plaintiff's action.

Deficiency Bill. A legislative act providing funds to meet a deficiency.

Deficit. [Lat.] A lack of funds to balance accounts. A falling short.

De Jure. [Lat.] By right or legal title, as distinguished from de facto.

Del Credere. [Ital.] An extra commission given an agent in consideration of his guaranteeing the solvency of those with whom he deals on credit.

Delivery. The act of putting property legally in another's possession.

De Lunatico Inquirendo. [Lat.] A writ providing for the investigation of the mental condition of one alleged to be mentally unsound.

Demand. Presentation of a claim for payment.

Demise. To convey an estate in real property by will or lease.

Denial. In law, the contradiction of the allegations of the opposing party.

Demurrage. Detention of a vessel beyond the time allowed by a charter party. The payment made by the shipper for such detention.

Demurrer. In law, a pleading which grants the truth of the facts alleged, but denies that they are sufficient, or alleges some defect.

Deponent. One who makes oath as to the truth of a written statement.

Deposit. To place in the care of another, especially to leave money with a bank subject to order. Payment on account.

Deposition. Testimony, especially in written form, under oath, to be used in place of oral testimony.

Depot. A place of storage. A warehouse for goods, etc. A railway station.

Depreciate. To decrease in value.

Derelict. Property, especially a ship or cargo, abandoned by the owner.

Deteriorate. To decrease in value.

Deviation. The voluntary departure without necessity of a ship from the regular course of the voyage insured.

Devise. To grant by will, especially of real estate.

Direct Evidence. Evidence which proves a fact directly, as the testimony of an eye-witness.

Director. One of the managers of a company or corporation.

Disability. Lack of qualification. Incapacity to perform a legal act.

Disaffirmance. Canceling a voidable contract.

Discharge. To execute or perform a duty. To pay a debt. To unload a ship.

Discontinuance. The abandonment of a legal proceeding by the plaintiff or through his neglect.

Discount. A deduction from or allowance on a price or account. Payment of interest in advance. Bank discount is the interest on the face of

a bill or note from the date of discount until maturity. True discount is the interest which added to the present worth equals the face value.

Discount Broker. One who discounts commercial paper.

Discount Day. The special day of the week appointed by a bank for discounting notes.

Disfranchise. To deprive of citizen's rights. To dispossess a member of a corporation.

Dishonor. Failure to pay a draft or obligation when due.

Dissolution. Breaking up of a partnership.

Dissolve. In law, to discharge, release, annul.

Distrain. To levy a distress.

Distress. The seizing of personal property to enforce payment of an obligation.

District Court. A subordinate court with jurisdiction in special cases.

Dividend. Proportional payment of profits to a stockholder. Payment to creditors out of a bankrupt estate.

Divisible Contract. One in which certain agreements are valid and others invalid.

Divorce. The legal separation of husband and wife.

Dockage. Charges for the use of a dock. Docking facilities.

Docket. A digest or abstract. A list of cases before a court.

Domestic. Not foreign. Of home production.

Domicile. A place of permanent and legal residence.

Dormant. Suspended, not acted on, as a title.

Double-Eagle, a twenty-dollar gold piece.

Dower. The right of a widow to a life interest in one-third of all real estate owned by her husband at any time after marriage.

Draft. An order to pay money. A rough copy. A deduction from gross weight. The number of feet a ship sinks in the water.

Draw. To make a draft. To call for funds.

Drawback. An allowance or return of money paid, especially of duties.

Drawee. The one on whom a draft or bill is drawn.

Drawer. The maker of a draft or bill of exchange.

Drayage. Cartage.

Drummer. A traveling salesman; commercial traveler.

Dry Goods. Textile fabrics.

Due. Owing.

Due Bill. A written acknowledgment of debt, not negotiable.

Dun. To press for payment.

Dunnage. Loose material laid on the bottom of a ship's hold or stowed between barrels and cases to prevent injury to cargo.

Duplicate. A copy. A second article of the same kind. In law, a reproduction of an instrument having the validity of an original.

Duress. Personal restraint, compulsion, confinement.

Duty. Government tax on exports or imports.

E

Eagle. A ten dollar gold piece.

Earnest. A payment made by the buyer to bind a bargain.

Easement. The right to the use of another's land.

E. & O. E. Abbreviation for "Errors and Omissions Excepted."

Effects. Personal property.

Ejectment. Dispossession, eviction. An action to recover possession of real property.

Emancipation Proclamation. The proclamation issued on Jan. 1, 1863, by President Lincoln declaring the freedom of slaves within the territory in rebellion.

Embargo. An order of a government forbidding ships to enter or leave its ports.

Embezzle. To appropriate fraudulently money entrusted to one's care.

Emblements. Growing crops which have been sown or planted, and their profits.

Eminent Domain. The right of a government to take private property for public use, with compensation to the owner.

Employer's Liability Insurance. Insurance against loss caused by injury to an employee.

Emporium. A place of trade, commercial centre.

Enabling Act. A statute making lawful an act otherwise not lawful.

Enact. To make valid as a law.
Endorse, Indorse. To sign one's name on the back of a commercial or legal paper for the purpose of certifying, guaranteeing, or transferring.
Endorsee. One in whose favor endorsement is made.
Endorsement in Blank. See Blank Endorsement.
Endorsement in Full. See Full Endorsement.
Endowment. Property or funds settled on an institution for its support.
Endowment Insurance. A form of life insurance under which a fixed sum is paid after a specified term.
Engross. To copy in manuscript.
Engrosser. One who obtains control of the market in a commodity by purchasing the whole or a large part of the supply.
Enjoin. To forbid by judicial order.
Entail. To limit the succession of real property to certain descendants.
Entire Contract. One under which all the agreements must be performed to fulfill the contract.
Entrepot. A place where goods in transit are deposited without paying duty.
Entry. Making a record. An item. Taking legal possession of real property. Entering feloniously, which, with breaking, constitutes burglary. Depositing a ship's papers with the Custom House.
Equitable Estate. Interest in property legally held by trustees.
Equity. A branch of jurisprudence, supplementing the common law. The interest retained by a mortgagor in property mortgaged by him. An equitable right.
Equity of Redemption. The right of a mortgagor to redeem forfeited property within a given time.
Escheat. The lapsing of lands to the state in default of legal heirs.
Escrow. A deed or bond given to a third person to be delivered to the grantee when a certain condition has been fulfilled.
Estate. An interest in property.
Estoppel. A rule of law barring the assertion of a fact or the performance of an act inconsistent with previous acts or declarations.
Evict. To eject legally.
Evidence. Testimony submitted in a legal investigation and accepted as a proper means of ascertaining a fact.
Examiner. A Custom House officer who compares goods with invoices.
Exchange. The process of remitting money values by means of bills and drafts. The discount or premium arising from the purchase or sale of different classes of values. A place where merchants meet to transact business.
Exchange Broker. One who deals in bills of exchange.
Exchequer. A treasury. Finances.
Excise. Internal revenue tax.
Execution. Finishing. Signing and sealing a legal instrument. A written direction given to an officer authorizing him to enforce a judgment.
Executor, fem. **Executrix.** A person appointed in a will to carry out its provisions.
Executory. To be performed in the future.
Exhibit. A voucher or document presented in court and marked to be used as evidence.
Ex parte. [Lat.] In legal proceedings, on one side only. In the absence of one party, or without his knowledge.
Export. To send goods abroad in the course of trade.
Exports. Goods exported.
Ex post facto. [Lat.] Retroactive. An ex post facto law is one which makes criminal an act performed previously and which was innocent when performed. In the United States such laws are unconstitutional.
Express. Definitely stated; not implied.
Express. The business of transporting goods and money by a common carrier with greater care and rapidity than by freight.
Extension. A further allowance of time given by a creditor to a debtor for payment.
Extradition. The delivery by one government or authority of a person accused of crime to another having jurisdiction over him.

F

Face. The amount for which a note is drawn.
Fac-simile. [Lat.] An exact copy.

Fact, Question of. In law, a question of the reality of any occurrence or condition, usually left to the jury, in distinction to questions of law, decided by the court.

Factor. A mercantile agent; a commission merchant; a consignee.

Factorage. The commission of a factor.

Facture. An invoice or bill of goods.

Fail. To become bankrupt; to suspend payment.

Fall. Decrease in value.

False Imprisonment. Interference with personal liberty contrary to law.

False Pretenses. Misstatements in regard to past facts made with intent to defraud.

Fancy Goods. Light fabrics, ribbons, laces, etc.

Farthing. The fourth part of an English penny, worth half a cent.

Fee. An estate in the inheritance of land. A charge legally fixed for the services of a public official. Charge of a professional man.

Fee Simple. Absolute ownership of real estate.

Fee Tail. An estate in land limited to specified heirs.

Felony. An offense graver than a misdemeanor, as burglary, homicide, rape, etc.

Fidelity Insurance. Insurance against loss by the dishonesty of an employee.

Fiduciary. Holding in trust. A trustee.

File. A collection of papers arranged in an orderly manner. To deliver any paper to a legal officer. To place on file.

Finance. Funds. Public money. Revenue.

Financier. One skilled in money matters.

Fire Insurance. Insurance of fire risks.

Firm. The title under which two or more persons carry on business. A partnership.

First Mortgage. The first of two or more mortgages on the same property, constituting a lien that must be satisfied before a second mortgage is.

Fiscal. Pertaining to the public treasury or revenue, or to finances in general. The fiscal year is the year by which accounts are reckoned.

Five-Forties. United States Bonds, issued during the Civil War, redeemable at any time after five years, payable at not more than forty years after date, bearing 6 per cent. interest.

Five-Twenties. United States Bonds, redeemable any time after five years, payable twenty years from date, bearing 6 per cent. interest.

Fixture. Anything of an accessory nature annexed to real estate. Anything forming a legal part of real estate.

Flat. Inactive; depressed; dull.

Flat Value. Value without interest or discount.

Floating Debt. An unfunded debt.

Flotsam. Wreckage or goods found floating on the sea.

F. O. B. "Free on board"; delivered free to a carrier, but not including transportation and shipping charges.

Folio. A page number. In bookkeeping, a page of an account book. An established number of words, in the United States generally 100, taken as a unit of measurement or reference.

Footing. The amount of a column of figures.

Force majeure. [Fr.] Superior force. An inevitable accident.

Forced Sale. A compulsory foreclosure or sale of property.

Foreclose. To take possession of property under the conditions of a mortgage.

Foreclosure. The act of foreclosing.

Foreign Bill. A bill of exchange drawn in one country and payable in another.

Forfeiture. Loss of property, etc., as a punishment for negligence or an unlawful act.

Forge. To imitate, counterfeit, or fraudulently fabricate, especially a signature or writing.

Forwarder. One who transmits or forwards goods.

Fractional. Of an amount smaller than the unit.

Fractional Currency. Coin or paper money worth less than the monetary unit.

Franc. The French monetary unit, containing 100 centimes; value 19.3 cents.

Franchise. A statutory right. A right or privilege enforced by government grant.

Franking. The privilege of sending letters free of charge.

Fraud. In law, any intentional deception or concealment by which another is legally damaged.

Free Goods. Goods admitted without an import tax.

Freehold. An estate of inheritance or life estate in real property.

Free Port. A port where ships may load and unload free from duties, or where the duties are the same for all nations.

Free Trade. Trade not restricted by tariff duties or regulations.

Freight. Payment for transportation of goods or hire of a ship; the goods carried.

Full Endorsement. One which specifies the person to whom payment is to be made.

Fund. To make a short time-loan or several loans into a permanent loan bearing interest.

Fundible. Interchangeable. That may be substituted for equal amounts of another thing, as money, grain, etc.

Funds. Ready money; resources. Public securities.

G

Garble. Dust, filth, or refuse removed from spices, drugs, etc.

Garnishee. One on whom a writ of garnishment is served.

Garnishment. A legal notice attaching the property of one person in the hands of another.

Gauge (gāj). To measure the capacity or contents of a cask; a measure or standard.

General Agent. One whose powers are defined by the general nature of his business.

General Average. See Average.

General Court. In Massachusetts and New Hampshire, the legislature.

General Delivery. Delivery of mail at a post-office when called for.

General Endorsement. Blank Endorsement.

General Order Store. A place of storage for foreign goods not delivered to a consignee within a specified time.

General Ship. A vessel carrying freight on a particular voyage for any one who may apply.

Good Consideration. One involving only natural love or affection, as opposed to valuable consideration.

Goods. Merchandise. Movable property.

Good Will. The reputation and patronage of an established business.

Grace. See Days of Grace.

Grain. The collective name for cereals.

Grand Jury. A body of citizens summoned to inquire into violations of law and to determine whether the evidence is sufficient to warrant an indictment.

Grant. A written conveyance of property. The land or other value so conveyed.

Grantee. One to whom a grant is made.

Grantor. One who makes a grant.

Great Gross. Twelve gross; 1,728 articles.

Greenbacks. Non-interest-bearing United States notes, as distinct from national bank notes.

Gross. Total, entire, without deductions, as opposed to net. Twelve dozen.

Gross Profit. The gross receipts after deducting expenses of manufacture or purchase.

Gross Ton. 2,240 pounds.

Gross Weight. The weight of merchandise including case or wrapping.

Guarantee. To become responsible for, to answer for. A security. The one to whom a guaranty is made.

Guarantor. One who makes a guaranty.

Guaranty. Security. Surety. An undertaking for the payment of money to another or for the fulfillment of a contract.

Guardian. One who has by nature or by legal appointment the custody of the person or property of another who is actually or legally incompetent to act for himself, as a minor or insane person.

Gunny Bag. A coarse jute sack used for coffee, etc.

H

Habeas Corpus. [Lat.] A writ calling for the production of a person in court, particularly for the purpose of inquiring into the lawfulness of imprisonment.

Habendum. [Lat.] The clause in a deed defining the grantee's estate in the property granted.

Hague Tribunal. A court of arbitration for the settlement of international disputes established at The Hague in 1899.

Harbor Dues. Charges made for use of a harbor.

Harbor Master. An officer responsible for the execution of harbor regulations.

Health Insurance. Insurance indemnifying the insured for loss by sickness.

Hogshead. A large cask, of variable capacity.

Hold. To be in possession of.

Holder. One in possession of a note or bill.

Holding Company. One holding securities of other companies.

Holdings. Any kind of property owned, but particularly stocks and bonds.

Hollow Ware. The trade name for hollow metal or china vessels.

Homestead. Real estate occupied by the owner as a home.

Homestead Act. An act of 1862 under which a settler may occupy not more than 160 acres of public land and acquire title in five years upon the fulfillment of certain conditions.

Homestead Law. A state law exempting the whole or a portion of a homestead from seizure for debt.

Homicide. The killing of a human being. Felonious homicide embraces murder and manslaughter; justifiable and excusable homicide include killing in defense of life, by accident, or from necessity.

Honor. To accept or pay a note, draft, or bill.

Husbandage. The compensation of a ship's husband.

Hypothecate. To pledge as security without transfer of title.

I

Immovables. Land, houses, and fixtures; real estate.

Impanel. To select a body of persons to serve as jurors.

Implied. Inferred, not expressed.

Import. To bring in merchandise from another country, especially in the course of trade.

Importer. One who imports goods.

Imports. Goods brought from a foreign country.

Impost. The government tax on imports. To classify imports for the purpose of assigning the duty.

Inchoate. Incomplete.

Income. Total amount of receipts from all sources; yearly gains.

Income Tax. A tax on the whole income of individuals or corporations, or on the portion in excess of a certain amount.

Incompetent. Not legally qualified.

Incorporate. To form into a corporation.

Indemnify. To make good a loss; to secure against damages.

Indemnity. Exemption from loss; immunity from punishment; freedom; compensation for loss or damages.

Indenture. A mutual agreement or contract between two or more parties. An official document.

Index. An alphabetical list of titles or accounts.

Indictment. The formal accusation of a criminal offense made by a grand jury.

Indorse. See Endorse, etc.

Indulgence. Extension of time for payment or performance of an act granted as a favor.

Infant. One not of full age; a minor.

Information. A criminal charge made usually by a prosecuting officer, not by a grand jury.

Infringe. To trespass upon, violate, make unlawful use of.

Injunction. The act of enjoining. A writ or process requiring a person to do, or restraining him from doing, a specified act.

Inland Bill. One drawn on a person in the same state or country.

Inquest. A judicial inquiry, particularly one made by a jury, as a coroner's inquest.

Inquiry, Court of. A court for the

investigation of charges against officers or privates of the army.

Inquisition. An inquiry made before a jury to ascertain facts or fix responsibility.

In re. [Lat.] In the matter of.

Insolvent. Unable to pay outstanding liabilities; bankrupt.

Installment. A part payment of a sum divided into portions. A part delivery of goods.

Instant (Inst.). Of the present month, as, the 12th inst.

In statu quo. [Lat.] In the same state (as before).

Instrument. A legal document expressing some act, as a deed or contract.

Insurable Interest. An interest in the thing insured which would suffer damage if the event insured against should occur.

Insurance (Ins.). A contract in which one party agrees to pay a specified sum on the death of the insured, or to indemnify him for loss by fire, marine risks, or other causes.

Insurance Broker. One who secures insurance for another.

Interest (Int.). A rate per cent. of money paid for the use of money; a right or share in the ownership of a thing.

Interest Account. In bookkeeping, an account of sums paid and received as interest.

Interlocutory. Intermediate, preliminary, not final, as an interlocutory decree.

Internal Revenue. Government revenue derived from domestic sources.

International Code. A code of signals by means of 26 flags and a pennant adopted in 1902 for communication between vessels at sea.

International Law. The system of laws governing the relations of nations.

International Peace Conference. A conference held in 1899 at The Hague, resulting in the establishment of the Hague Tribunal.

Interstate Commerce Act. An act of Congress passed on Feb. 4, 1887, for the regulation of commerce carried on by railroads between different states.

Interstate Commerce Commission. A commission of seven members appointed by the President, empowered to call for information from carriers, to fix rates, and to prosecute for violations of the law.

Intestate. Not having made a valid will; not disposed of by a valid will. One who dies without a will.

In Transitu (In trans.). [Lat.] In transit; on the road.

Inval'id. Without legal force.

Inventory. A schedule of goods or assets with values. An itemized enumeration of articles; annual account of stock.

Investment. The placing of money in business or securities for the purpose of obtaining profit.

Invoice (Inv.). An account of merchandise shipped to a consignee with prices and charges. The merchandise so sent.

Invoice Book. A book for entering copies of invoices.

Involuntary Bankrupt. One who has been adjudged bankrupt on the petition of his creditors.

Involved. Embarrassed by debt.

I. O. U. (I owe you). An acknowledgment of indebtedness.

Irrelevant. In law, without bearing on the question.

Issue. The first delivery of a negotiable instrument. The quantity sent forth. A legal point to be decided. Offspring, descendant.

J

J/A. Joint account.

Jetsam. Goods thrown into the sea to lighten a vessel in distress.

Jettison. Throwing goods overboard to save a vessel in distress.

Jobber. A wholesaler who buys from importers or manufacturers and sells to retailers; a middleman.

Job-lot. An odd assortment of left over goods.

Joint. Shared by two or more persons, as a joint account, joint note, joint estate.

Joint Stock. That held in company; stock formed by the union of several companies.

Joint Stock Company. A form of partnership under which each shareholder may transfer his stock without the consent of the others.

Joint Tenant. One who has unity of possession, title, or interest with others. The survivor takes the whole.

Journal. A book intermediate between Day-Book and Ledger, containing a condensed statement of daily accounts.

Judgment. A judicial decree or decision.

Judgment Debtor. A debtor against whom a judgment has been obtained.

Judgment Note. One on which the holder is empowered to enter judgment without notification to the maker.

Jurat. A certificate added to an affidavit stating when and before whom it was acknowledged.

Jurisdiction. Power to exercise judicial authority.

Jury. A body of men sworn to try a question of fact and render a verdict.

L

Lame Duck. Stock-brokers' slang for one unable to meet his liabilities.

Landlord. One who leases land or buildings to a tenant.

Law Merchant. The body of rules and principles relating to commercial usages. Commercial law.

Lay Days. Days allowed in a charter-party for unloading and loading a vessel.

Lay Down. The total cost of merchandise, including charges and freight to place of shipment.

Leakage. A percentage allowance for waste by leaking of casks.

Lease. An agreement for letting lands or other property for a specified term or at will.

Legacy. A gift of property by will. A bequest.

Legal Tender. Currency or coin authorized by a government for payment of debts.

Legal Tender Bond. A bond payable in any kind of legal tender.

Legatee. One to whom a legacy is bequeathed.

Lessee. One to whom a lease is made.

Lessor. One who makes a lease.

Letter of Advice. A letter giving notice of a business transaction.

Letter of Credit (L/C). A letter, usually addressed to foreign banking houses, authorizing the holder to receive credit to a certain amount.

Letter of License. A writing by which creditors extend the period for payment of a debtor's obligations.

Letter of Marque. A commission given by a government to a private vessel to seize ships and property of the enemy.

Letters of Administration. The authority under which an administrator acts.

Letters Patent. An instrument granting power and authority to do some act or enjoy some right.

Letters Testamentary. An instrument authorizing a person to act as executor of an estate.

Levy. To collect, exact, or impose. To seize by legal authority. Legal seizure of property to satisfy an execution.

Levy Court. In some states a board of officers corresponding to county commissioners, supervisors, etc.

Liability. Debts; pecuniary obligations.

Libel. The unjustified publication of a derogatory or defamatory statement or representation concerning another. The plaintiff's statement in writing of his cause of complaint.

License. A formal permission to carry on a trade or perform an act.

Lien. The right to hold or detain another's property to secure payment of a debt. A legal charge on property.

Life Estate. An estate continuing only for the term of the holder's life.

Life Insurance. Insurance against loss by the death of another.

Lighterage. Payment for unloading ships by lighters.

Limitation. See Statute of Limitations.

Limited Liability Company. One in which each stockholder's liability is limited to the amount of his stock or to a guaranteed amount.

Liquidation. Legal determination of claims. Settlement or adjustment of liabilities.

List Price. The published price.

Litigation. Carrying on a judicial contest. A suit at law.

Lloyds'. A corporation of English marine underwriters, so named from its former meeting place, Lloyds'

Coffee House in London. The company possesses complete records of everything pertaining to marine matters. To rate on Lloyds' books as A1 is accepted as conclusive evidence of excellence.

Lloyds' Register. A yearly register of tonnage, age, build, character, and condition of ships of over 200 tons, issued by the Lloyds.

Loan. Property especially furnished for temporary use.

Loan Office. An office where loans are negotiated.

Log Book or Log. A book in which the daily progress of a vessel, weather notes, and all incidents are recorded.

Long. Having a supply of. Expecting an advance in the market.

Long Price. The full retail price without discounts.

Longshoremen. Laborers who load and unload vessels.

L. S. [Lat., *locus sigilli*], the place of the seal, the left side

M

Maintenance. Intermeddling in a suit between other persons, and assisting either party with means to carry on the suit. See Champerty.

Maker. The signer of a note.

Majority. The age at which a person is permitted to exercise the rights of citizenship, usually twenty-one years.

Malfeasance. The doing of an illegal or wrongful act. See Misfeasance.

Malice. The state of intending to commit an illegal act.

Malice Aforethought or Prepense. The state of intending to commit an illegal act without a justifying or extenuating cause.

Malicious Mischief. Injury done to another's property wantonly or from malice.

Malicious Prosecution. A prosecution undertaken maliciously, without probable cause. An action for damages by the person so prosecuted.

Manda'mus. [Lat.] A writ issued by a superior to an inferior court, or to a person, commanding the performance of some act.

Manifest. A schedule or invoice of a ship's cargo and passengers.

Manslaughter. The unlawful killing, without previous malice, of a human being, done intentionally under stress of passion (voluntary manslaughter), or unintentionally in the commission of an unlawful act or through negligence (involuntary manslaughter).

Manufactures. Articles made from raw materials by some process, usually by machinery.

Marine Insurance. Insurance against loss of vessels and cargo.

Mark. A letter, figure, or device by which goods and prices are distinguished.

Market. A public place of sale for commodities. A body of persons dealing in values, or in readiness to deal at a certain price. On the market for sale.

Maturity. The date fixed for payment of commercial paper. Becoming due.

Maximum. The highest price or quantity.

Measurement Goods. Goods of large bulk and small weight on which freight is charged by measurement.

Memorandum. An informal note, statement, or communication. A brief legal instrument.

Mercantile Agency. A commercial agency. A concern which procures and furnishes information as to the financial standing and credit of business firms.

Mercantile Paper. Negotiable notes or bills issued by merchants for goods bought or consigned.

Merchandise. All goods dealt in by merchants.

Merchant. One who buys and sells commodities; generally applied to wholesalers or large dealers.

Merchantable. Fit for market; in sound condition.

Merger. Absorption of a smaller by a greater estate, obligation, or offence. The control of a number of corporations by a single corporation through the issue of stock of the controlling corporation in lieu of a majority of stock of the corporations merged.

Metric System. A decimal system of weights and measures, first established in France; now required in Europe, and permitted in English-speaking countries.

Minimum. Lowest price. Least quantity possible.

Minor. Same as Infant.
Mint. A place for coining money, usually under government authority.
Misdemeanor. An indictable offence of a lower degree than felony.
Misfeasance. The doing of a lawful act or exercise of lawful authority in an unlawful manner.
Misrepresentation. A false statement knowingly made by a party to a contract.
Misuser. The abuse or unlawful use of a right.
Mitigation. Reduction of a penalty or fine; that which in part excuses.
Mittimus. [Lat.] A warrant committing a person to prison.
Mixed Fabrics. Those composed of more than one kind of fibre, as wool and cotton.
Money. The measure of value and medium of exchange; especially metal coined by a government. Bank notes and checks.
Money Broker. A money changer. One who deals in loans.
Money Market. The general market for capital. The exchange of different kinds of currency.
Money Order. An order, not transferable, requesting one person to pay money to another. A post-office order.
Monopoly. The exclusive power of dealing in certain classes of goods. Exclusive control.
Moot Court. A mock court, for practice in legal procedure.
Moral Hazard. In fire insurance, the risk involved in the honesty or dishonesty of the person insured.
Mortgage. A conditional conveyance of property, to become void upon fulfillment of the condition.
Mortgage Deed. A deed of the nature of a mortgage.
Mortgagee. One to whom property is mortgaged.
Mortgagor. One who gives a mortgage.
Mortuary Tables. In life insurance, tabulations of the average length of life, for the determination of the amounts of premiums.
Movables. Personal property. Property not fixed.
Municipal Court. A court having civil or criminal jurisdiction within the limits of a municipality.
Municipal Law. The body of laws regulating the relations of a state with those under its jurisdiction, and of its members among themselves.
Murder. Intentional killing of another by a sane person with malice aforethought.
Mutual Insurance. That in which policy holders form the insuring company.

N

National Banks. Banks organized under the conditions of an Act of Congress with power to issue bank notes only to the amount of United States Bonds deposited in the United States Treasury.
National Debt. The debt, especially the funded debt, of a nation to individuals.
Natural Guardian. A guardian by right of relationship.
Natural Rights. Rights belonging to a person by the law of nature, as the right to life, liberty, and property.
Naturalization. The act of conferring the rights of citizenship on an alien.
Negotiable Paper. Commercial paper which may be transferred by endorsement or delivery.
Negotiate. To confer with a view of agreeing upon a transaction.
Net. Clear of all charges and deductions. To gain as clear profit.
Net Proceeds. The proceeds of a sale or business after deduction of all expenses.
Net Profit. Clear Profit, after deducting losses and all incidental charges.
Net Weight. The weight of merchandise without the container.
Nisi. [Lat.] Unless. A decree *nisi* becomes effective at a specified time unless modified.
Nisi Prius. [Lat.] Unless before. A phrase applied to a trial of a civil action before a judge and jury.
Nolle Prosequi. [Lat.] To be unwilling to prosecute. A declaration by the plaintiff or, in criminal cases, by the prosecutor, that he will not prosecute the case or some part of it.
Nolo Contendere. [Lat.] I will not contend. A plea in criminal law subjecting the defendant to the punishment without admitting the truth

of the charge. Usually Non Vult when the plea is entered by counsel.

Nominal. In name only; very small; as, a nominal price.

Nominal Damages. Damages given when no actual loss has resulted from the violation of a right.

Non-delivery. Failure to deliver.

Non-disclosure. Suppression of a material known fact.

Non-feasance. Failure to do what ought to be done.

Non-suit. A judgment against a plaintiff who fails to establish his suit.

Non-user. Failure to use a right or privilege.

Non Vult. See Nolo Conten'dere.

Notary, or Notary Public. A public officer, appointed by the governor of the state, who attests or certifies to acknowledgment of deeds and other papers, takes affidavits, protests notes and bills, etc.

Notarial. Of or done by a notary public.

Note. A written undertaking to pay (promissory note, note of hand). A bank note.

Note Book. A book in which notes of hand are recorded.

Notice of Protest. A notice given by the holder to the drawer or endorser of a note that the notice has been protested for non-payment or non-acceptance.

Nuisance. Anything that legally damages a person by disturbing him in the enjoyment of his property or rights.

O

Oath. An affirmation appealing to God for the truth of the statement or promise.

Obligation. A binding engagement. A bond with condition annexed. Acknowledgment of a liability.

Offer. Putting forward for sale.

O. K. All correct.

On Sale. On the market; to be sold.

Open Account. An unsettled running account on a merchant's books.

Opening. The display of a new stock of goods for sale.

Open Policy. A policy in which the value of the object is not fixed and must be proved by the insurer in case of loss. In marine insurance, a policy which covers varying risks, each object insured being endorsed on the policy as the shipments are made.

Open Shop. One in which no discrimination is made between union and non-union workers.

Option. The privilege of demanding fulfillment of a contract within a specified time, at a given price.

Oral. Spoken, not written.

Order. Any command of a court. A commission to buy, sell, or deliver goods or pay money. On commercial paper, the direction by which the person to whom payment is to be made is indicated.

Order Book. One in which orders received are entered.

Ordinance. A law or regulation enacted by a public, especially by a local, authority.

Organic Law. The legal principles or system forming the basis of a state. A written constitution.

Orphans' Court. In Delaware, Pennsylvania, New Jersey and Maryland the title of the courts of probate.

Outlawed Debt. One which has run beyond the time when the law will enforce its payment.

Outstanding. Of accounts, not yet collected.

Overdraw. To draw more money than is on deposit to one's credit.

Overdue. More than due, and unpaid.

Overt Act. An open act manifesting intention.

Oyer and Terminer. [Old Fr.] Hear and determine. The title of criminal courts in several states.

P

Package (Pkg.). A bundle, parcel, bale, box, crate, cask, etc., of goods.

Panel. The list of persons summoned for jury duty. The persons so summoned.

Panic. A financial crisis caused by apprehension and producing monetary pressure.

Paper. A document. A writing showing authorization or identity. Negotiable evidence of indebtedness.

Paper Money. Bills of banks or a government passing current as money.

Par. Equality of Value. The nominal

or face value, without premium or discount. The fixed value of the unit of one country's coinage expressed in that of another's.

Paramount. Superior; that will prevail in law.

Parol. Oral. Executed by writing not under seal.

Partner. An associate in business; member of a partnership.

Partnership. The joining of two or more persons into one firm for the purpose of carrying on any business or enterprise.

Part Owner. One of several owners in common.

Party. One sharing or interested in a matter. The plaintiff and the defendant in a law suit.

Party Wall. A dividing wall common to two adjoining properties.

Pass Book. A customer's book in which entries of purchases are made. A bank book showing deposits and withdrawals.

Passport. A formal permission from a government to travel, with identification and certificate of nationality.

Patent. A government license, securing to an inventor the sole right to manufacture an article for a term of years. The invention so protected.

Pawn. A pledge of chattels or money delivered as security for the payment of money.

Pawnbroker. One who as a business lends money at interest on security of personal property deposited with him.

Payable. To be paid. That may be paid. Due.

Payee. The person in whose favor a note, bill, or draft is drawn.

Penalty. Punishment for a legal offence. The sum to be forfeited for non-performance of an agreement.

Per. [Lat.] By.

Per Annum. [Lat.] By the year.

Per Cent. (%). [Lat.] By the hundred; especially of rate of interest, discount, etc.

Per Centage. [Lat.] A rate per cent. A part. A commission.

Per Contra. [Lat.] To the opposite side of an account.

Peremptory Challenge. One made without the assignment of reasons.

Perils of the Sea. In insurance, risks arising from navigation.

Perjury. A wilfully false statement made under oath, especially in a judicial proceeding and in relation to a matter material to the point in question.

Permit. A written license or permission given by a proper authority to perform a certain act.

Personal Property. All property except real estate.

Petit Jury. A jury of twelve for the decision of questions of fact in a cause before the court.

Petition. A written application to a court for an order.

Petty Cash. Money received or expended in small amounts.

Piracy. An act of depredation or robbery committed on the high seas. The unlawful reproduction of the production of another.

Plaintiff. One who brings a personal action against another.

Plea. A lawsuit. The statement of a cause. A defendant's answer to a charge.

Pleadings. The statements by which the parties to a suit present their claims and defense.

Pledge. A bailment of personal property to secure the performance of an agreement.

Police Court. A court for the trial of minor offences against order.

Policy. The instrument by which the contract of insurance is made.

Poor Debtor. One who may obtain exemption from imprisonment by taking the Poor Debtor's oath of poverty.

Port. A harbor for vessels. A commercial city.

Port of Call. A customary stopping place of vessels for repairs, to take on coal, transship cargo, etc.

Port of Discharge. In insurance, a port where a vessel without necessity discharges her cargo or a portion of it.

Port of Entry. A place designated for the entry of imports. A port of entry may be an inland locality.

Post. [Lat.] To transfer from day-book or journal to ledger. To complete the record.

Post-date. To date after the actual time.

Post Mortem. [Lat.] An examination of a body made after death.

Post Obit. A promise to pay effective

after the death of some person, especially to repay a loan out of a reversion.

Power of Attorney. A written instrument giving one person authority to act for another.

Practice. The form and manner of conducting legal proceedings.

Preferred Creditor. One who has prior claim to payment.

Prefect's Court. In New Mexico the title of the probate court.

Preferred Stock. Stock on which a dividend is declared before any is declared on common stock, or which has priority over common stock in a distribution of assets.

Premise. In law, the portion of a deed reciting the names of the parties, the consideration and the subject matter. *Plur.*, The property conveyed. In general, land and buildings.

Premium. A sum in addition to par value. The excess in value of one form of money over another. The consideration given for an insurance contract.

Prepense. Aforethought.

Prescription. A right derived from immemorial usage, or acquired by the required period of possession.

Presentment. Action or statement by a grand jury from their own knowledge in regard to an offence.

Present Worth. The amount which with the true discount equals the face value.

Presumption. In law, an inference as to the truth of a fact, based on knowledge of another fact or on experience.

Presumptive Evidence. Evidence which is sufficient if not contradicted.

Price Current. A statement showing the prevailing prices of merchandise, stock, or securities.

Price List. A list of articles with prices attached.

Prima Facie. [Lat.] At first view. Prima facie evidence is evidence sufficient to prove a fact unless rebutted.

Prime. Of high quality; superior.

Principal. One with controlling authority. A head. One who employs another person to act for him. The sum on which interest is paid.

Probate. Proof of the genuineness of a will before a competent officer.

Probate Courts. Civil courts with jurisdiction over probate; surrogate's court, orphans' court, etc.

Probation Officer. A court officer appointed by a municipal magistrate to have supervision over an offender under suspended sentence.

Proceeds. The amount realized by a transaction.

Procuration. Agency. Power of attorney.

Produce. Farm products.

Profit. The excess of returns over cost or investment.

Profit and Loss. An account in which gains and losses are balanced.

Promissory Note. A written promise to pay a certain sum of money at a specified time or on demand to the order of a specified person or to bearer.

Property. The legal right of ownership. An estate in any valuable thing.

Pro Rata. [Lat.] In proportion, according to share.

Prosecute. To proceed against legally.

Protect. To see that commercial paper is paid at maturity.

Protection. The system of encouraging home industries by discouraging foreign competition through the imposition of restrictive or prohibitive taxes on imported products.

Protective Tariff. A tariff designed to encourage domestic manufactures as contrasted with a tariff for revenue.

Protest. A formal notice made by a notary of the non-payment of a note or the non-acceptance or non-payment of a draft.

Proximo (prox.). [Lat.] Of next month.

Proxy. Authorization to act, particularly to vote, for another. A writing conveying such authority. A person so authorized.

Q

Quantum Meruit. [Lat.] As much as he deserves. In legal procedure, a count founded on a promise to pay the full value of a service rendered.

Quarantine. Restraint of intercourse to which a ship, dwelling, or town is subjected on suspicion of infection. The place of such restraint.

Quash. To annul, set aside, as an indictment.

Quasi. [Lat.] As if, similar to, resembling.

Qui Tam. [Lat.] Who as much. An action under a penal statute in which the penalty goes in part to the person bringing the action, in part to the state.

Quit Claim. A form of deed in the nature of a release, generally containing a provision covenanting against others who may claim under the grantor.

Quitrent. A fixed rent paid by tenant of a freehold, discharging him from other rent.

Quotation. The published current prices of commodities or stocks, rates of exchange, etc.

Quo Warranto. [Lat.] A writ requiring a person to show by what authority he acts.

R

Ratify. To sanction, confirm (an act, treaty, or contract).

Real Covenant. One which runs with the land.

Real Estate, Real Property, Realty. Land, houses, and fixtures; all immovable property.

Rebate. A deduction, abatement, or discount made for prompt payment or other reasons. The returning of part of a sum already paid.

Receipt, Receiving. A written acknowledgment of the delivery of goods or money. To make such written acknowledgment.

Receivable. The opposite of payable.

Receiver. A person appointed by a court to hold in trust and administer property in litigation, of an insolvent, or of a corporation on its dissolution.

Reciprocity. The exchange of special trade privileges between two countries, established by treaty.

Record. To register officially as evidence, as a mortgage or deed.

Record. A memorandum of court proceedings. A copy of the official papers of a case.

Recorder. Especially in New York, the chief judge having jurisdiction in a municipality.

Recoupment. A form of counter claim reducing the amount of a claim on account of defects in performance, etc.

Rectification. Repeated distillation of alcoholic liquors.

Redelivery. The return of a chattel to the bailor on completion of the service required by the bailment.

Redemption. The recovery of mortgaged property upon fulfillment of the terms of the mortgage.

Referee. A person, generally an attorney, appointed by the court to determine a matter in dispute.

Reference. Referring a matter to a referee. The consent of the parties is not necessary.

Register. A public officer authorized to record deeds, etc. A ship's paper, issued by the Custom House, stating description, name, tonnage, nationality, and ownership.

Re-insurance. Transfer of part of the contract of insurance from one insurer to another.

Release. A discharge from an obligation. Surrender of claim.

Remainder. In law, an estate arising only after the termination of a prior estate.

Remedy. The legal means for securing compensation, redress, or a right.

Remittance. The act of transferring funds from one place to another. The values so transferred.

Renew. To continue in force, as a lease. To extend time for payment of a note.

Rent. Compensation given for the use of real estate or other property.

Replevin. The action or writ by which a person whose goods are wrongfully detained may obtain possession of them, under security to try the case and to restore the goods if the case is decided against him.

Reply. The answer made by the plaintiff to the plea of the defendant.

Repository. A place for safekeeping; a warehouse or storehouse.

Reprisal. Retaliation. Resort to force to obtain redress. The seizure of ships or property to indemnify for unlawful seizure or detention.

Residence. In law, a place of established and actual abode.

Residuary Legatee. One to whom the residue of an estate is bequeathed.

Residue. That portion of an estate which remains after particular legacies and debts have been paid.

Resources. Available money, property, or claims that can be converted into property.

Respondentia. A loan secured by the cargo of a ship, payable only on safe arrival.

Restraint of Trade. Contracts in restraint of trade are those held to interfere unjustly with competition and therefore illegal.

Retail. To sell in small quantities.

Retainer. The engaging by a client of an attorney to maintain his interests in legal proceedings. The fee paid to secure the services of counsel.

Return. In law, the giving back of a writ to the court after service.

Returns. The profit derived from an undertaking or investment.

Revenue. Income, particularly the income of a state from taxes received.

Revenue Cutter. A small government vessel used in enforcing the revenue laws and preventing smuggling.

Revert. To return into the possession of the former owner or of his heirs.

Revoke. To recall, take back, annul (authority, a will, etc.).

Right of Action. A right entitling the holder to institute legal proceedings for infringement.

Right of Survivorship. The right of the survivor or survivors to take the interest of their deceased joint tenant, which otherwise would go to his heirs.

Right of Way. The legal right possessed by one person to pass over the land of another.

Royalty. An agreed compensation paid to an author or inventor for each article or work sold, or for each article manufactured, or for the use of a patent.

Ruling. A decision made by a court on a point of law.

S

Sale. The transfer of property for a consideration.

Salvage. The act of saving a ship or cargo from loss. The property saved. The compensation allowed by law for such saving. In fire insurance, the goods saved; their value; their proceeds if sold.

Sample. A small portion of merchandise taken as a specimen of quality.

Sans Recours. [Fr.] Without redress.

Satisfaction. Discharge, settlement of a claim or judgment.

Scrip. Certificate issued to a subscriber after allotment of stock.

Seal. A device impressed in wax or other material or any mark made for the purpose of authenticating a signature or ratifying an instrument.

Sealer. A United States officer charged with the certification of weights and measures.

Sea Letter. A document given to a vessel certifying her nationality and describing the character and destination of her cargo, and other particulars.

Seaworthy. Fit and properly equipped for a voyage.

Security. A pledge. A surety. A document evidencing a right to property.

Seize. To take legal possession of.

Seized and Possessed of. In possession of.

Seizin or **Seisin.** Ownership, possession.

Sell. To make a sale; to transfer for a consideration.

Serve. To deliver in legal form, as a writ.

Sessions, Courts of. Various state criminal courts, as General Sessions, Special Sessions.

Set-Off. A counter claim made by a debtor, arising from a distinct claim.

Several. Independent of others. Individual.

Severalty. Exclusive or individual ownership or right.

Severance. Destroying unity, division of rights, etc.

Share. The interest owned by one of a number. One of several equal parts. The unit of the division of stock.

Ship. To give to a carrier for transportation. To agree to serve on a vessel.

Shipment. Delivery to a carrier for transportation. The goods dispatched.

Shipper. One who dispatches goods by vessel or other conveyance.
Shipping. A collective term for a number of vessels.
Shipping Articles. An agreement between captain and seamen fixing wages, period of service, etc.
Shipping Clerk. One who oversees the forwarding of merchandise.
Ship's Husband. A representative of a ship-owner who manages receipts and expenses and attends to the requisite repairs of a ship while in port.
Ship's Papers. Papers which a vessel is required to carry; sea-letter, log-book, bill of health, shipping articles, etc.
Ship's Stores. Provisions, fuel, cables, extra spars, etc.
Short Exchange. Bills of exchange payable at sight or in a few days.
Short Of. Not in possession of securities or produce that one has sold. To "sell short" is to sell for future delivery what one has not, with the expectation that prices will fall.
Shorts. Dealers who have sold short.
Short Ton. 2000 pounds.
Shrinkage. Reduction in bulk, measurement, weight, or value.
Sight Draft. One payable when presented.
Signature. The name of a person written by himself.
Silent, Sleeping, or **Dormant Partner.** One who furnishes capital but has no voice in a business.
Simple Interest. Interest paid only on principal.
Sinking Fund. A fund set apart from revenue to pay a public or corporation debt.
Slander. Malicious oral utterance of false statements to the detriment of reputation.
Sleeping Partner. See Silent Partner.
Smart Money. Exemplary damages; punitive in their character.
Smuggle. To take goods into or out of a country without paying duties.
Solvent. Able to meet all liabilities.
Special Partner. One whose liability is limited.
Specialty. A contract under seal.
Specie. Coin.
Specification. A written description and enumeration of particulars. In patent law, a detailed description of the invention and a statement of the inventor's claim.
Specific Duty. One imposed on a given class of articles without regard to value.
Specific Performance. Actual performance of the conditions of a contract in distinction from the payment of damages in lieu of performance.
Speculate. To engage in a business venture the returns from which are conjectural.
Stamp Duty. A tax. Stamps affixed to checks and proprietary articles.
Staple. The principal commodity of a country or district.
Statement. A list of resources and liabilities. A report of an agent's transactions. An itemized list of the debits and credits of a personal account.
Stationers' Hall. The building of the Stationers' Guild in London where registration of English copyright is made.
Statute. A law enacted by a legislative body. An act of legislature
Statute Law. The body of laws established by legislative enactments as opposed to unwritten or common law.
Statute of Frauds. A statute requiring written memoranda to validate a contract.
Statute of Limitations. A statute prescribing the period after which a legal action can not be brought.
Sterling. The standard money of Great Britain. The legal standard of fineness of silver is 725 parts of silver to 75 of copper.
Stock. Transferable shares in the capital of corporations. Supply of goods on hand.
Stock Broker. One who deals in stocks on commission.
Stock Exchange. A place where shares of stock are bought and sold under established regulations
Stockholder. One who owns shares of the stock of a corporation.
Stock Jobber. A speculator in stocks.
Stoppage in Transitu. The right of a seller to stop goods on their passage if the purchaser has become insolvent.
Storage. The safe keeping of goods. The amount paid for storing goods.

Subagent. An agent employed by an agent.
Subcontract. One made under an existing contract.
Sublet. To let by a lessee.
Subpoena. [Lat.] Under penalty, a writ commanding a witness to appear in court.
Subpoena duces tecum. [Lat.] A subpoena requiring a witness to produce certain papers.
Subrogation. Putting one thing or person in the place of another. Substituting one creditor for another.
Sue. To prosecute, bring an action against.
Summary Proceedings. Statutory legal remedies without the bringing of an action.
Summons. In law, a notice to appear in court as defendant or witness.
Sundries. Unclassified articles.
Supercargo. An agent who accompanies and manages cargo.
Supplementary Proceedings. Legal proceedings to discover the assets of a judgment debtor.
Surety. One who makes himself responsible for the contract or act of another.
Surrogate. In certain States the title of the judicial officer charged with the probate of wills, appointment of guardians, etc.
Surveyor. A customs officer appointed to determine the value, quantity, etc., of imports. An agent of an insurance company to report on applications for insurance.
Suspend. To cease operations. To stop payment.
Suspense Account. An account made of doubtful balances to ascertain probable profit or loss.
Sutler. A dealer who accompanies an army to sell goods.
Suttle Weight. The weight of merchandise after deduction of tare.
Syndicate. A combination of capitalists or other persons for the purpose of conducting a large financial or industrial enterprise.

T

Tacit. Implied, not expressed.
Tale Quale [Lat.] or **Tel Quel.** [Fr.]. Such as; used to denote that cargo is presumed to correspond with sample, and that buyer takes the risk of deterioration.
Tally. An account kept by checking off. A score. A label. To count. To correspond.
Tare. An allowance made for the weight of barrels, boxes, or coverings of merchandise. Actual tare is determined by weighing each container; average tare by weighing one or more containers as samples; estimated tare by allowing a fixed percentage.
Tariff. A schedule of prices or charges. A schedule of duties.
Teller. An officer appointed to count votes. A bank officer who receives or pays out money.
Tenant. One who holds real estate by any form of legal right; especially, one who occupies another's property under lease.
Tenant in Common. One holding a property in common with another.
Tender. An offer. An offer of money or service in satisfaction of an obligation.
Ten-Forties. The popular name for certain United States Government bonds in 1864, which could be redeemed in ten years or allowed to run forty.
Tenor. Intent, nature. In law, an exact copy.
Term.
Testator, fem. **Testatrix.** One who has made a will.
Testimony.
Textile. Woven.
Ticker. An instrument telegraphically recording stock quotations.
Tickler. A reminder. A book or set of sheets containing a memorandum of notes due, debts, etc.
Time. The hour fixed (2.15 P.M.) on the New York Stock Exchange when securities on the day's contracts must be delivered. On time=on credit.
Time Bargain. A contract for delivery or for an option for a specified period.
Time Draft. A draft or bill payable at a fixed date.
Title. The legal right of ownership.
Tonnage. The capacity or weight of a ship in tons. The displacement of a vessel. A canal tax on vessel or cargo.
Tort. A private or civil injury, except

one arising from breach of contract, for which damages may be had.

Trade. Business or occupation; buying and selling; commerce; traffic; barter.

Trade Discount. A discount from list prices made to dealers.

Trade Mark. A distinguishing mark, protected by law, used to mark the product of a manufacturer.

Trade Price. That allowed by wholesalers to retailers.

Trade Sale. An auction by and for the trade; especially of booksellers.

Trades Union. A combination formed by working men or women for the protection of their rights and improvement of their condition.

Traffic. Trade. Commerce. The amount of business done by a railroad or other carrier.

Transit Duty. Tax imposed on goods for passing through a country.

Transportation. Conveying goods from one place to another.

Transshipment. The transfer of goods from one conveyance to another.

Traveler. A commercial agent; a drummer.

Treason. The waging of war against the United States or giving aid or comfort to their enemies.

Treasury Note. A note or bill issued by the government and passing current as money.

Treaty. An agreement or compact between two or more nations.

Tret. Allowance for waste of 4 lbs. in 104 lbs., after deduction tare.

Triplicate. To make three identical copies of a paper. The third copy.

Trustee Process. The same as Garnishment.

U

Ullage. What a cask lacks of being full.

Ultimo (ult.). [Lat.] Of the last month.

Ultra Vires. [Lat.] Beyond power. Applied to acts done in excess of the legal powers possessed.

Unclaimed Goods. Goods in government storehouses unclaimed three years after importation, subject to sale at auction.

Undersell. To sell below the trade price or the price of a competitor.

Underwrite. To assume an insurance risk.

Usury. Interest in excess of the highest legal rate.

V

Valid. Binding; legally executed; having legal force.

Valuable Consideration. One involving money, services, or anything of value.

Value. To estimate. Worth. Purchasing power.

Value Received. A phrase used in notes to show the receipt of a consideration.

Vendee. One to whom something is sold.

Vendor. A seller.

Vendue. A public or auction sale.

Venture. A mercantile speculation or investment.

Void. Without legal effect or force; not binding.

Voidable. That may become of no legal effect if proper steps are taken.

Voucher. Any paper or other document establishing the occurrence of some transaction or the truth of accounts.

W

Waive. To relinquish (a right).

Waiver. Relinquishment of a legal right or privilege.

Warehouse. To place in a bonded warehouse.

Warranty. Guaranty that a fact is as represented, or that some condition of a contract is or will be fulfilled.

Wastage. Loss in handling or by decay; shrinkage.

Waste. Damage to property permitted or done by a tenant.

Way Bill. A list and description of goods transported by common carrier.

Wharfage. Fees paid for the use of a wharf.

Wholesale. The sale of goods in quantity, in unbroken or whole packages.

Without Recourse. A formula by which the endorser of commercial paper transfers it with assuming responsibility.

Wreckage. Merchandise saved from a wreck.

DECLARATION OF INDEPENDENCE

IN CONGRESS—THURSDAY, JULY 4, 1776.

AGREEABLY to the order of the day, the Congress resolved itself into a committee of the whole, to take into their further consideration, the Declaration; and after some time the President resumed the chair, and Mr. Harrison reported that the committee had agreed to a declaration, which they desired him to report. (The committee consisted of Thomas Jefferson, Benjamin Franklin, John Adams, R. Sherman and R. R. Livingston.)

The Declaration being read, was agreed to, as follows:

A DECLARATION.

By the Representatives of the United States of America, in Congress Assembled.

WHEN, in the course of human events, it becomes necessary for one people to dissolve the political bands which have connected them with another, and to assume, among the powers of the earth, the separate and equal station to which the laws of nature and of nature's God entitle them, a decent respect to the opinions of mankind requires that they should declare the causes which impel them to the separation.

We hold these truths to be self-evident, that all men are created equal; that they are endowed by their Creator with certain unalienable rights; that among these, are life, liberty, and the pursuit of happiness. That to secure these rights, governments are instituted among men, deriving their just powers from the consent of the governed: that, whenever any form of government becomes destructive of these ends, it is the right of the people to alter or to abolish it, and to institute a new government, laying its foundation on such principles, and organizing its powers in such form, as to them shall seem most likely to effect their safety and happiness. Prudence, indeed, will dictate that governments long established, should not be changed for light and transient causes; and, accordingly, all experience hath shown, that mankind are more disposed to suffer, while evils are sufferable, than to right themselves by abolishing the forms to which they are accustomed. But, when a long train of abuses and usurpations, pursuing invariably the same object, evinces a design to reduce them under absolute despotism, it is their right, it is their duty, to throw off such government, and to provide new guards for their future security. Such has been the patient sufferance of these colonies, and such is now the necessity which constrains them to alter their former systems of government. The history of the present King of Great Britain is a history of repeated injuries and usurpations, all having, in direct object, the establishment of an absolute tyranny over these States. To prove this, let facts be submitted to a candid world:

He has refused his assent to laws the most wholesome and necessary for the public good.

He has forbidden his Governors to pass laws of immediate and pressing importance, unless suspended in their operation till his assent should be obtained; and when so suspended, he has utterly neglected to attend to them.

He has refused to pass other laws for the accommodation of large districts of people, unless those people would relinquish the right of representation in the legislature; a right inestimable to them, and formidable to tyrants only.

He has called together legislative bodies at places unusual, uncomfortable, and distant from the depository of their public records, for the sole

purpose of fatiguing them into compliance with his measures.

He has dissolved representative houses repeatedly, for opposing, with manly firmness, his invasions on the rights of the people.

He has refused, for a long time after such dissolutions, to cause others to be elected; whereby the legislative powers, incapable of annihilation, have returned to the people at large for their exercise; the state remaining, in the mean time, exposed to all the danger of invasion from without, and convulsions within.

He has endeavored to prevent the population of these States; for that purpose obstructing the laws for naturalization of foreigners; refusing to pass others to encourage their migration hither, and raising the conditions of new appropriations of lands.

He has obstructed the administration of justice by refusing his assent to laws for establishing judiciary powers.

He has made judges dependent on his will alone, for the tenure of their offices, and the amount and payment of their salaries.

He has erected a multitude of new offices, and sent hither swarms of officers to harass our people, and eat out their substance.

He has kept among us, in times of peace, standing armies, without the consent of our legislatures.

He has affected to render the military independent of and superior to the civil power.

He has combined, with others, to subject us to a jurisdiction foreign to our constitution, and unacknowledged by our laws; giving his assent to their acts of pretended legislation:

For quartering large bodies of armed troops among us;

For protecting them, by a mock trial, from punishment, for any murders which they should commit on the inhabitants of these States;

For cutting off our trade with all parts of the world;

For imposing taxes on us without our consent;

For depriving us, in many cases, of the benefits of trial by jury;

For transporting us beyond seas to be tried for pretended offences;

For abolishing the free system of English laws in a neighboring province, establishing therein an arbitrary government, and enlarging its boundaries, so as to render it at once an example and fit instrument for introducing the same absolute rule into these colonies;

For taking away our charters, abolishing our most valuable laws, and altering, fundamentally, the powers of our governments;

For suspending our own legislatures, and declaring themselves invested with power to legislate for us in all cases whatsoever.

He has abdicated government here, by declaring us out of his protection, and waging war against us.

He has plundered our seas, ravaged our coasts, burnt our towns, and destroyed the lives of our people.

He is, at this time, transporting large armies of foreign mercenaries to complete the work of death, desolation, and tyranny, already begun, with circumstances of cruelty and perfidy scarcely paralleled in the most barbarous ages, and totally unworthy the head of a civilized nation.

He has constrained our fellow-citizens, taken captive on the high seas, to bear arms against their country, to become the executioners of their friends and brethren, or to fall themselves by their hands.

He has excited domestic insurrections amongst us, and has endeavored to bring on the inhabitants of our frontiers the merciless Indian savages, whose known rule of warfare is an undistinguished destruction, of all ages, sexes, and conditions.

In every stage of these oppressions, we have petitioned for redress, in the most humble terms; our repeated petitions have been answered only by repeated injury. A prince, whose character is thus marked by every act which may define a tyrant, is unfit to be the ruler of a free people.

Nor have we been wanting in attention to our British brethren. We have warned them, from time to time, of attempts made by their legislature to extend an unwarrantable jurisdiction over us. We have reminded them of the circumstances of our emigration and settlement here. We have appealed to their native justice and magnanimity, and we have conjured them,

by the ties of our common kindred, to disavow these usurpations, which would inevitably interrupt our connection and correspondence. They, too, have been deaf to the voice of justice and consanguinity. We must, therefore, acquiesce in the necessity, which denounces our separation, and hold them, as we hold the rest of mankind, enemies in war—in peace, friends.

We, therefore the representatives of the UNITED STATES OF AMERICA, in GENERAL CONGRESS assembled, appealing to the Supreme Judge of the World for the rectitude of our intentions, do, in the name, and by the authority of the good people of these colonies, solemnly publish and declare, That these United Colonies are, and of right ought to be, FREE AND INDEPENDENT STATES; that they are absolved from all allegiance to the British crown, and that all political connection between them and the State of Great Britain, is, and ought to be, totally dissolved; and that, as *FREE AND INDEPENDENT STATES*, they have full power to levy war, conclude peace, contract alliances, establish commerce, and to do all other acts and things which INDEPENDENT STATES may of right do. And, for the support of this Declaration, with a firm reliance on the protection of DIVINE PROVIDENCE, we mutually pledge to each other, our lives, our fortunes, and our sacred honor.

The foregoing Declaration was, by order of Congress, engrossed, and signed by the following members:

JOHN HANCOCK.

NEW HAMPSHIRE—Josiah Bartlett, William Whipple, Matthew Thornton.

CONNECTICUT — Roger Sherman, Samuel Huntington, William Williams, Oliver Wolcott.

RHODE ISLAND—Stephen Hopkins, William Ellery.

NEW YORK—William Floyd, Philip Livingston, Francis Lewis, Lewis Morris.

NEW JERSEY—Richard Stockton, John Witherspoon, Francis Hopkinson, John Hart, Abraham Clark.

PENNSYLVANIA — Robert Morris, Benjamin Rush, Benjamin Franklin, John Morton, George Clymer, James Smith, George Taylor, James Wilson, George Ross.

MASSACHUSETTS BAY—Samuel Adams, John Adams, Robert Treat Paine, Elbridge Gerry.

DELAWARE—Cæsar Rodney, George Read, Thomas M'Kean.

MARYLAND—Samuel Chase, William Paca, Thomas Stone, Charles Carroll, of Carrollton.

VIRGINIA—George Wythe, Richard Henry Lee, Thomas Jefferson, Benjamin Harrison, Thomas Nelson, Jun., Francis Lightfoot Lee, Carter Braxton.

NORTH CAROLINA—William Hooper, Joseph Hewes, John Penn.

SOUTH CAROLINA — Edward Rutledge, Thomas Heyward, Jun., Thomas Lynch, Jr., Arthur Middleton.

GEORGIA—Button Gwinnett, Lyman Hall, George Walton.

THE CONSTITUTION

OF THE

UNITED STATES OF AMERICA.*

WE THE PEOPLE of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defence, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this CONSTITUTION for the United States of America.

ARTICLE I.

SECTION 1. All legislative Powers herein granted shall be vested in a Congress of the United States, which shall consist of a Senate and House of Representatives.

SECTION 2. The House of Representatives shall be composed of Members chosen every second Year by the People of the several States, and the Electors in each State shall have the Qualifications requisite for Electors of the most numerous Branch of the State Legislature.

No Person shall be a Representative who shall not have attained to the Age of twenty-five Years, and been seven Years a Citizen of the United States, and who shall not, when elected, be an Inhabitant of that State in which he shall be chosen.

[Representatives and direct Taxes shall be apportioned among the several States which may be included within this Union, according to their respective Numbers, which shall be determined by adding to the whole Number of free Persons, including those bound to Service for a Term of Years, and excluding Indians not taxed, three-fifths of all other Persons].† The actual Enumeration shall be made within three Years after the first meeting of the Congress of the United States, and within every subsequent Term of ten Years, in such Manner as they shall by Law direct. The Number of Representatives shall not exceed one for every thirty Thousand, but each State shall have at Least one Representative; and until such enumeration shall be made, the State of New Hampshire shall be entitled to chuse three, Massachusetts eight, Rhode-Island and Providence Plantations one, Connecticut five, New York six, New Jersey four, Pennsylvania eight, Delaware one, Maryland six, Virginia ten, North Carolina five, South Carolina five, and Georgia three.

When vacancies happen in the Representation from any State, the Executive Authority thereof shall issue Writs of Election to fill such Vacancies.

The House of Representatives shall chuse their Speaker and other officers* and shall have the sole power of Impeachment.

SECTION 3. The Senate of the United States shall be composed of two Senators from each State, chosen by the Legislature thereof, for six Years; and each Senator shall have one Vote.

Immediately after they shall be assembled in Consequence of the first Election, they shall be divided as equally as may be into three Classes. The Seats of the Senators of the first Class shall be vacated at the Expiration of the second Year, of the second Class at the Expiration of the fourth Year, and of the third Class at the Expiration of the sixth Year, so that one third may be chosen every second year; and if Vacancies happen by Resignation, or otherwise, during the

* The text contains the original spelling, capitalization and punctuation. See Documentary History of the Constitution, 1894, vol. II, pp. 3–18.

† The clause included in brackets is amended by the 14th amendment, 2nd section.

* The principal of these are the clerk, sergeant-at-arms, doorkeeper, and postmaster.

Recess of the Legislature of any State, the Executive thereof may make temporary Appointments until the next Meeting of the Legislature, which shall then fill such Vacancies.

No person shall be a Senator who shall not have attained the Age of thirty Years, and been nine Years a Citizen of the United States, and who shall not, when elected, be an Inhabitant of that State for which he shall be chosen.

The Vice President of the United States shall be President of the Senate, but shall have no Vote, unless they be equally divided.

The Senate shall chuse their other Officers, and also a President, pro tempore, in the Absence of the Vice President, or when he shall exercise the Office of President of the United States.

The Senate shall have the sole Power to try all Impeachments. When sitting for that Purpose, they shall be on Oath or Affirmation. When the President of United States is tried, the Chief Justice shall preside: And no Person shall be convicted without the Concurrence of two thirds of the Members present.

Judgment in Cases of Impeachment shall not extend further than to removal from Office, and Disqualification to hold and enjoy any Office of honor, Trust or Profit under the United States: but the Party convicted shall nevertheless be liable and subject to Indictment, Trial, Judgment and Punishment, according to Law.

SECTION 4. The Times, Places and Manner of holding Elections for Senators and Representatives, shall be prescribed in each State by the Legislature thereof; but the Congress may at any time by Law make or alter such Regulations, except as to the places of chusing Senators.

The Congress shall assemble at least once in every Year, and such Meeting shall be on the first Monday in December, unless they shall by Law appoint a different Day.

SECTION 5. Each House shall be the Judge of the Elections, Returns and Qualifications of its own Members, and a Majority of each shall constitute a Quorum to do Business; but a smaller Number may adjourn from day to day, and may be authorized to compel the Attendance of absent Members, in such Manner, and under such Penalties as each House may provide.

Each House may determine the Rules of its Proceedings, punish its Members for disorderly Behaviour, and, with the Concurrence of two-thirds, expel a Member.

Each House shall keep a Journal of its Proceedings, and from time to time publish the same, excepting such Parts as may in their Judgment require Secrecy; and the Yeas and Nays of the Members of either House on any question shall, at the Desire of one fifth of those Present, be entered on the Journal.

Neither House, during the Session of Congress, shall, without the Consent of the other, adjourn for more than three days, nor to any other Place than that in which the two Houses shall be sitting.

SECTION 6. The Senators and Representatives shall receive a Compensation* for their Services, to be ascertained by Law, and paid out of the Treasury of the United States They shall in all Cases, except Treason, Felony and Breach of the Peace, be privileged from Arrest during their Attendance at the Session of their respective Houses, and in going to and returning from the same; and for any Speech or Debate in either House, they shall not be questioned in any other Place.

No Senator or Representative shall, during the Time for which he was elected, be appointed to any civil Office under the Authority of the United States, which shall have been created, or the Emoluments whereof shall have been encreased during such time: and no Person holding any Office under the United States, shall be a Member of either House during his Continuance in Office.

SECTION 7. All bills for raising Revenue shall originate in the House of Representatives; but the Senate may propose or concur with Amendments as on other Bills.

Every bill which shall have passed the House of Representatives and the Senate, shall, before it becomes a Law, be presented to the President of the

* The present compensation is $7,500 a year and an allowance of 20 cents for every mile of travel to and from the national capital.

United States; If he approve he shall sign it, but if not he shall return it, with his Objections to the House in which it shall have originated, who shall enter the Objections at large on their Journal, and proceed to reconsider it. If after such Reconsideration two thirds of that House shall agree to pass the Bill, it shall be sent, together with the Objections to the other House, by which it shall likewise be reconsidered, and if approved by two thirds of that House, it shall become a Law. But in all such Cases the Votes of Both Houses shall be determined by yeas and Nays, and the Names of the Persons voting for and against the Bill shall be entered on the Journal of each House respectively. If any Bill shall not be returned by the President within ten days (Sundays excepted) after it shall have been presented to him, the Same shall be a Law, in like Manner as if he had signed it, unless the Congress by their Adjournment prevent its Return, in which Case it shall not be a Law.

Every Order, Resolution, or Vote to which the Concurrence of the Senate and House of Representatives may be necessary (except on a question of Adjournment) shall be presented to the President of the United States; and before the Same shall take Effect, shall be approved by him, or being disapproved by him, shall be repassed by two thirds of the Senate and House of Representatives, according to the Rules and Limitations prescribed in the Case of a Bill.

SECTION 8. The Congress shall have Power: To lay and collect Taxes, Duties, Imposts and Excises, to pay the Debts and provide for the common Defence and general Welfare of the United States; but all Duties, Imposts and Excises shall be uniform throughout the United States;

To borrow Money on the credit of the United States;

To regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes;

To establish an uniform Rule of Naturalization,* and uniform Laws on the subject of Bankruptcies throughout the United States;

* The Naturalization laws require a foreigner to be in the country five years before he is entitled to citizenship.

To coin Money, regulate the Value thereof, and of foreign Coin, and fix the Standard of Weights and Measures;

To provide for the Punishment of counterfeiting the Securities and current Coin of the United States;

To establish Post Offices and post Roads;

To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right * to their respective Writings and Discoveries;

To constitute Tribunals inferior to the supreme Court;

To define and punish Piracies and Felonies committed on the high Seas, and Offences against the Law of Nations;

To declare War, grant Letters of Marque and Reprisal, and make Rules concerning Captures on Land and Water;

To raise and support Armies, but no Appropriation of Money to that Use shall be for a longer Term than two Years;

To provide and maintain a Navy;

To make Rules for the Government and Regulation of the land and naval Forces;

To provide for calling forth the Militia to execute the Laws of the Union, suppress Insurrections and repel Invasions;

To provide for organizing, arming, and disciplining, the Militia, and for governing such Part of them as may be employed in the Service of the United States, reserving to the States respectively, the Appointment of the Officers, and the Authority of training the Militia according to the discipline prescribed by Congress;

To exercise exclusive Legislation in all Cases whatsoever, over such District (not exceeding ten Miles square) as may, by Cession of particular States, and the Acceptance of Congress, become the Seat of the Government of the United States, and to exercise like Authority over all places purchased by the Consent of the Leg-

* An Author obtains a copyright by application to the Librarian of Congress, and it is secured for forty-four years.

An inventor secures a patent from the Patent Office, at Washington, for a certain number of years, prescribed by the Commissioner of Patents.

islature of the State in which the Same shall be, for the Erection of Forts, Magazines, Arsenals, dock-Yards, and other needful Buildings; —And

To make all Laws which shall be necessary and proper for carrying into Execution the foregoing Powers, and all other Powers vested by this Constitution in the Government of the United States, or in any Department or Officer thereof.

SECTION 9. The Migration or Importation of such Persons as any of the States now existing shall think proper to admit, shall not be prohibited by the Congress prior to the Year one thousand eight hundred and eight, but a Tax or duty may be imposed on such Importation, not exceeding ten dollars for each Person.

The Privilege of the Writ of Habeas Corpus shall not be suspended, unless when in Cases of Rebellion or Invasion the public Safety may require it.

No Bill of Attainder or ex post facto Law shall be passed.

No Capitation, or other direct, Tax shall be laid, unless in Proportion to the Census or Enumeration herein before directed to be taken.

No Tax or Duty shall be laid on Articles exported from any State.

No Preference shall be given by any Regulation of Commerce or Revenue to the Ports of one State over those of another: nor shall Vessels bound to, or from, one State, be obliged to enter, clear, or pay Duties in another.

No Money shall be drawn from the Treasury, but in Consequence of Appropriations made by Law; and a regular Statement and Account of the Receipts and Expenditures of all public Money shall be published from time to time.

No Title of Nobility shall be granted by the United States: And no Person holding any Office of Profit or Trust under them, shall, without the Consent of the Congress, accept of any present, Emolument, Office, or Title, of any kind whatever, from any King, Prince, or foreign State.

SECTION 10. No State shall enter into any Treaty, Alliance, or Confederation; grant Letters of Marque and Reprisal; coin Money; emit Bills of Credit; make any Thing but gold and silver Coin a Tender in Payment of Debts; pass any Bill of Attainder, ex post facto Law, or Law impairing the Obligation of Contracts, or grant any Title of Nobility.

No State shall, without the consent of the Congress, lay any Imposts or Duties on Imports or Exports, except what may be absolutely necessary for executing it's inspection Laws: and the net Produce of all Duties and Imposts, laid by any State on Imports or Exports, shall be for the Use of the Treasury of the United States; and all such Laws shall be subject to the Revision and Controul of the Congress.

No State shall, without the Consent of Congress, lay any Duty of Tonnage, keep Troops, or Ships of War in time of Peace, enter into any Agreement or Compact with another State, or with a foreign Power, or engage in War, unless actually invaded, or in such imminent Danger as will not admit of Delay.

ARTICLE II.

SECTION 1. The executive Power shall be vested in a President of the United States of America. He shall hold his Office during the Term of four Years, and, together with the Vice President, chosen for the same Term, be elected as follows

Each State shall appoint, in such Manner as the Legislature thereof may direct, a Number of Electors, equal to the whole Number of Senators and Representatives to which the State may be entitled in the Congress: but no Senator or Representative, or Person holding an Office of Trust or Profit under the United States, shall be appointed an Elector.

[The Electors shall meet in their respective States, and vote by Ballot for two Persons, of whom one at least shall not be an Inhabitant of the same State with themselves. And they shall make a List of all the Persons voted for, and of the Number of Votes for each; which List they shall sign and certify, and transmit sealed to the Seat of the Government of the United States, directed to the President of the Senate. The President of the Senate shall, in the Presence of the Senate and House of Representatives, open all the Certificates, and the Votes shall then be counted. The Person having

the greatest Number of Votes shall be the President, if such Number be a Majority of the whole Number of Electors appointed; and if there be more than one who have such Majority, and have an equal Number of Votes, then the House of Representatives shall immediately chuse by Ballot one of them for President; and if no Person have a Majority, then from the five highest on the List the said House shall in like Manner chuse the President. But in chusing the President, the Votes shall be taken by States, the Representation from each State having one Vote; A Quorum for this Purpose shall consist of a Member or Members from two thirds of the States, and a Majority of all the States shall be necessary to a Choice. In every Case, after the Choice of the President, the Person having the greatest Number of Votes of the Electors shall be the Vice President. But if there should remain two or more who have equal Votes, the Senate shall chuse from them by Ballot the Vice President.]

The clause in brackets has been superseded by the 12th Amendment.

The Congress may determine the Time of chusing the Electors, and the Day on which they shall give their Votes; which Day shall be the same throughout the United States.

No Person except a natural born Citizen, or a Citizen of the United States, at the time of the Adoption of this Constitution, shall be eligible to the Office of President; neither shall any Person be eligible to that Office who shall not have attained to the Age of thirty-five Years, and been fourteen Years a Resident within the United States.

In Case of the Removal of the President from Office, or of his Death, Resignation, or Inability to discharge the Powers and Duties of the said office, the Same shall devolve on the Vice President, and the Congress may by Law provide for the Case of Removal, Death, Resignation, or Inability, both of the President and Vice President, declaring what Officer shall then act as President, and such Officer shall act accordingly, until the Disability be removed, or a President shall be elected.

The President shall, at stated Times, receive for his Services, a Compensation, which shall neither be encreased nor diminished during the Period for which he shall have been elected, and he shall not receive within that Period any other Emolument from the United States, or any of them.

Before he enter on the Execution of his Office, he shall take the following Oath or Affirmation:—"I do solemnly "swear (or affirm) that I will faithfully "execute the Office of President of the "United States, and will to the best of "my Ability, preserve, protect and "defend the Constitution of the United "States."

SECTION 2. The President shall be Commander in Chief of the Army and Navy of the United States and of the Militia of the several States, when called into the actual Service of the United States; he may require the Opinion, in writing, of the principal Officer in each of the executive Departments, upon any subject relating to the Duties of their respective Offices, and he shall have Power to grant Reprieves and Pardons for Offences against the United States, except in Cases of Impeachment.

He shall have Power, by and with the Advice and Consent of the Senate, to make Treaties, provided two thirds of the Senators present concur; and he shall nominate, and by and with the Advice and Consent of the Senate, shall appoint Ambassadors, other public Ministers and Consuls, Judges of the supreme Court, and all other Officers of the United States, whose Appointments are not herein otherwise provided for, and which shall be established by Law; but the Congress may by Law vest the Appointment of such inferior Officers, as they think proper, in the President alone, in the Courts of Law, or in the Heads of Departments.

The President shall have Power to fill up all Vacancies that may happen during the Recess of the Senate, by granting Commissions which shall expire at the End of their next Session.

SECTION 3. He shall from time to time give to the Congress Information of the State of the Union, and recommend to their Consideration such Measures as he shall judge necessary and expedient; he may, on extraordinary Occasions, convene both Houses, or either of them, and in Case of Dis-

agreement between them, with Respect to the time of Adjournment, he may adjourn them to such Time as he shall think proper; he shall receive Ambassadors and other public Ministers; he shall take Care that the Laws be faithfully executed, and shall Commission all the officers of the United States.

SECTION 4. The President, Vice President and all civil Officers of the United States, shall be removed from Office on Impeachment for, and Conviction of, Treason, Bribery, or other high Crimes and Misdemeanors.

ARTICLE III.

SECTION 1. The judicial Power of the United States, shall be vested in one supreme Court, and in such inferior Courts as the Congress may from time to time ordain and establish. The Judges, both of the supreme and inferior Courts, shall hold their Offices during good Behaviour, and shall, at stated Times, receive for their Services, a Compensation which shall not be diminished during their Continuance in Office.

SECTION 2. The judicial Power shall extend to all Cases, in Law and Equity, arising under this Constitution, the Laws of the United States, and Treaties made, or which shall be made, under their authority;—to all Cases affecting Ambassadors, other public Ministers and Consuls;—to all Cases of admiralty and maritime Jurisdiction;—to Controversies to which the United States shall be a Party;—to Controversies between two or more States;—between a State and Citizens of another State*;—between Citizens of different States;—between Citizens of the same State claiming Lands under Grants of different States, and between a State, or the Citizens thereof, and foreign States, Citizens or Subjects.

In all Cases affecting Ambassadors, other public Ministers and Consuls, and those in which a State shall be Party, the supreme Court shall have original Jurisdiction. In all the other Cases before mentioned, the supreme Court shall have appellate Jurisdiction, both as to Law and Fact, with such Exceptions, and under such Regulations as the Congress shall make.

The Trial of all Crimes, except in Cases of Impeachment, shall be by Jury; and such Trial shall be held in the State where the said Crimes shall have been committed; but when not committed within any State, the Trial shall be at such Place or Places as the Congress may by Law have directed.

SECTION 3. Treason against the United States, shall consist only in levying War against them, or in adhering to their Enemies, giving them Aid and Comfort. No Person shall be convicted of Treason unless on the Testimony of two Witnesses to the same overt Act, or on Confession in open Court.

The Congress shall have Power to declare the Punishment of Treason, but no Attainder of Treason shall work Corruption of Blood, or Forfeiture except during the Life of the Person attainted.

ARTICLE IV.

SECTION 1. Full Faith and Credit shall be given in each State to the public Acts, Records and judicial Proceedings of every other State. And the Congress may by general Laws prescribe the Manner in which such Acts, Records and Proceedings shall be proved, and the Effect thereof.

SECTION 2. The Citizens of each State shall be entitled to all Privileges and Immunities of Citizens in the several States.

A Person charged in any State with Treason, Felony, or other Crime, who shall flee from Justice, and be found in another State, shall on Demand of the Executive Authority of the State from which he fled, be delivered up, to be removed to the State having Jurisdiction of the Crime.

No Person held to Service or Labour in one State, under the Laws thereof, escaping into another, shall, in Consequence of any Law or Regulation therein, be discharged from such Service or Labour, but shall be delivered up on Claim of the Party to whom such Service or Labour may be due.

SECTION 3. New States may be admitted by Congress into this Union; but no new State shall be formed or erected within the Jurisdiction of any

*This clause was limited by the 11th Amendment.

other State; nor any State be formed by the Junction of two or more States, or Parts of States, without the Consent of the Legislatures of the States concerned as well as of the Congress.

The Congress shall have power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belonging to the United States; and nothing in this Constitution shall be so construed as to Prejudice any Claims of the United States, or of any particular State.

SECTION 4. The United States shall guarantee to every State in this Union a Republican Form of Government, and shall protect each of them against Invasion; and on Application of the Legislature, or of the Executive (when the Legislature cannot be convened) against domestic Violence.

ARTICLE V.

The Congress, whenever two thirds of both Houses shall deem it necessary, shall propose Amendments to this Constitution, or, on the Application of the Legislatures of two thirds of the several States, shall call a Convention for proposing Amendments, which, in either case, shall be valid to all Intents and Purposes, as Part of this Constitution, when ratified by the Legislatures of three fourths of the several States, or by Conventions in three fourths thereof, as the one or the other Mode of Ratification may be proposed by the Congress; Provided that no Amendment which may be made prior to the Year One thousand eight hundred and eight shall in any Manner affect the first and fourth Clauses in the Ninth Section of the first Article; and that no State, without its Consent, shall be deprived of it's equal Suffrage in the Senate.

ARTICLE VI.

All Debts contracted and Engagements entered into, before the Adoption of this Constitution, shall be as valid against the United States under this Constitution, as under the Confederation.

This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.

The Senators and Representatives before mentioned, and the Members of the several State Legislatures, and all executive and judicial Officers, both of the United States, and of the several States, shall be bound by Oath or Affirmation, to support this Constitution; but no religious Test shall ever be required as a Qualification to any Office or public Trust under the United States.

ARTICLE VII.

The Ratification of the Conventions of nine States, shall be sufficient for the Establishment of this Constitution between the States so ratifying the same.

DONE in Convention by the Unanimous Consent of the States present the Seventeenth Day of September in the Year of our Lord one thousand seven hundred and Eighty seven, and of the Independance of the United States of America the Twelfth. IN WITNESS whereof We have hereunto subscribed our Names,

G° WASHINGTON—
Presidt and Deputy from Virginia

New Hampshire
JOHN LANGDON
NICHOLAS GILMAN

Massachusetts
NATHANIEL GORHAM
RUFUS KING

Connecticut
WM. SAML. JOHNSON
ROGER SHERMAN

New York
ALEXANDER HAMILTON

New Jersey
WIL: LIVINGSTON
DAVID BREARLEY
WM. PATERSON
JONA: DAYTON

Pennsylvania
B. FRANKLIN
THOMAS MIFFLIN
ROBT. MORRIS
GEO. CLYMER

THO. FITZSIMONS
JARED INGERSOLL
JAMES WILSON
GOUV MORRIS

Delaware
GEO: READ
GUNNING BEDFORD JUN
JOHN DICKINSON
RICHARD BASSETT
JACO: BROOM

Maryland
JAMES MCHENRY
DAN OF ST THOS JENIFER
DANL. CARROLL

Virginia
JOHN BLAIR
JAMES MADISON JR.

North Carolina
WM. BLOUNT
RICHD. DOBBS SPAIGHT
HU WILLIAMSON

South Carolina
J. RUTLEDGE
CHARLES COTESWORTH PINCKNEY.
CHARLES PINCKNEY
PIERCE BUTLER

Georgia
WILLIAM FEW
ABE BALDWIN
Attest WILLIAM JACKSON,
Secretary

AMENDMENTS

TO

THE CONSTITUTION OF THE UNITED STATES OF AMERICA

The Conventions of a number of the States having at the time of their adopting the Constitution expressed a desire, in order to prevent misconstruction or abuse of its powers, that further declaratory and restrictive clauses should be added: And as extending the ground of public confidence in the government will best insure the beneficent ends of its institution—

Resolved, By the Senate and House of Representatives of the United States of America in Congress assembled, two thirds of both houses concurring, That the following articles be proposed to the legislatures of the several states as amendments to the constitution of the United States, all or any of which articles, when ratified by three fourths of the said legislatures, to be valid to all intents and purposes, as part of the said Constitution, namely:

Articles in addition to, and amendment of, the Constitution of the United States of America, proposed by Congress and ratified by the Legislatures of the several States, pursuant to the fifth article of the original Constitution.

ARTICLE I.

Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.

ARTICLE II.

A well regulated Militia being necessary to the security of a free State, the right of the people to keep and bear Arms, shall not be infringed.

ARTICLE III.

No Soldier shall, in time of peace be quartered in any house, without the consent of the Owner, nor in time of war, but in a manner to be prescribed by law.

ARTICLE IV.

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

ARTICLE V.

No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a Grand Jury, except in cases arising in the land or naval forces, or in the Militia, when in actual service in time of War or public danger; nor shall any person be subject for the same offence to be twice put in jeopardy of life or limb; nor shall be compelled in any Criminal Case to be a witness against himself, nor be deprived of life, liberty, or

property, without due process of law; nor shall private property be taken for public use, without just compensation.

ARTICLE VI.

In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the Witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the Assistance of Counsel for his defence.

ARTICLE VII.

In suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury, shall be otherwise reexamined in any Court of the United States, than according to the rules of the common law.

ARTICLE VIII.

Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.

ARTICLE IX.

The enumeration in the Constitution, of certain rights, shall not be construed to deny or disparage others retained by the people.

ARTICLE X.*

The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.

ARTICLE XI.†

The Judicial power of the United States shall not be construed to extend to any suit in law or equity, commenced or prosecuted against one of the United States by Citizens of another State, or by Citizens or Subjects of any Foreign State.

ARTICLE XII.†

The Electors shall meet in their respective states, and vote by ballot for President and Vice-President, one of whom, at least, shall not be an inhabitant of the same state with themselves; they shall name in their ballots the person voted for as President, and in distinct ballots the person voted for as Vice-President, and they shall make distinct lists of all persons voted for as President, and of all persons voted for as Vice-President, and of the number of votes for each, which lists they shall sign and certify, and transmit sealed to the seat of the government of the United States, directed to the President of the Senate:—the President of the Senate shall, in presence of the Senate and House of Representatives, open all the certificates and the votes shall then be counted;—The person having the greatest number of votes for President, shall be the President, if such number be a majority of the whole number of Electors appointed; and if no person have such majority, then from the persons having the highest numbers not exceeding three on the list of those voted for as President, the House of Representatives shall choose immediately, by ballot, the President. But in choosing the President, the votes shall be taken by states, the representation from each state having one vote; a quorum for this purpose shall consist of a member or members from two-thirds of the states, and a majority of all the states shall be necessary to a choice. And if the House of Representatives shall not choose a President whenever the right of choice shall devolve upon them, before the fourth day of March next following, then the Vice-President shall act as President, as in the case of the death or other constitutional disability of the President.—The person having the greatest number of votes as Vice-President, shall be the Vice-President, if such number be a majority of the whole number of Electors appointed, and if no person have

* The first ten amendments were proposed at the first session of the first Congress (1789), and declared adopted in 1791.

† The eleventh amendment was proposed at the first session of the third Congress (1794), and declared adopted in 1798. It qualifies a clause in section 2 of Article III.

† This amendment is substituted for Clause 3, Sec. I., Art. II., page 934, and annuls it. It was declared adopted in 1804.

a majority, then from the two highest numbers on the list, the Senate shall choose the Vice-President; a quorum for the purpose shall consist of two-thirds of the whole number of Senators, and a majority of the whole number shall be necessary to a choice. But no person constitutionally ineligible to the office of President shall be eligible to that of Vice-President of the United States.

ARTICLE XIII.*

SECTION 1. Neither slavery nor involuntary servitude, except as a punishment for crime whereof the party shall have been duly convicted, shall exist within the United States, or any place subject to their jurisdiction.

SECTION 2. Congress shall have power to enforce this article by appropriate legislation.

ARTICLE XIV.†

SECTION 1. All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside. No state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

SECTION 2. Representatives shall be apportioned among the several States according to their respective numbers, counting the whole number of persons in each State, excluding Indians not taxed. But when the right to vote at any election for the choice of electors for President and Vice-President of the United States, Representatives in Congress, the Executive and Judicial officers of a State, or the members of the Legislature thereof, is denied to any of the male inhabitants of such State, being twenty-one years of age, and citizens of the United States, or in any way abridged, except for participation in rebellion or other crime, the basis of representation therein shall be reduced in the proportion which the number of such male citizens shall bear to the whole number of male citizens twenty-one years of age in such state.

SECTION 3. No person shall be a Senator or Representative in Congress, or elector of President and Vice-President, or hold any office, civil or military, under the United States, or under any State, who, having previously taken an oath, as a member of Congress, or as an officer of the United States, or as a member of any State legislature, or as an executive or judicial officer of any State, to support the Constitution of the United States, shall have engaged in insurrection or rebellion against the same, or given aid or comfort to the enemies thereof. But Congress may by a vote of two-thirds of each house, remove such disability.

SECTION 4. The validity of the public debt of the United States, authorized by law, including debts incurred for payment of pensions and bounties for services in suppressing insurrection or rebellion, shall not be questioned. But neither the United States nor any State shall assume or pay any debt or obligation incurred in aid of insurrection or rebellion against the United States, or any claim for the loss or emancipation of any slave; but all such debts, obligations, and claims shall be held illegal and void.

SECTION 5. The Congress shall have power to enforce, by appropriate legislation, the provisions of this article.

ARTICLE XV.*

SECTION 1. The right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State, on account of race, color, or previous condition of servitude.

SECTION 2. The Congress shall have power to enforce this article by appropriate legislation.

* The thirteenth amendment was proposed at the second session of the thirty-eighth Congress (1865) and declared adopted in 1865.

† The fourteenth amendment was first proposed at the first session of the thirty-ninth Congress, 1866, and declared adopted in 1868.

* The fifteenth amendment was proposed at the second session of the fortieth Congress, in 1869, and declared adopted in 1870.

PRESIDENTS OF THE UNITED STATES

	Name.	Birthplace.	Year.	Paternal Ancestry.	Residence.	Inaugurated. Year	Inaugurated. Age	Politics	Place of Death	Year.	Age.
1	George Washington	Westmoreland Co., Va	1732	English	Va	1789	57	Fed.	Mt. Vernon, Va	1799	67
2	John Adams	Quincy, Mass	1735	English	Mass.	1797	62	Fed.	Quincy, Mass	1826	91
3	Thomas Jefferson	Shadwell, Va	1743	Welsh	Va	1801	58	Rep.†	Monticello, Va	1820	83
4	James Madison	Port Conway, Va	1751	English	Va	1809	58	Rep.	Montpelier, Va	1836	85
5	James Monroe	Westmoreland Co., Va	1758	Scotch	Va	1817	59	Rep.	New York City	1831	73
6	John Quincy Adams	Quincy, Mass	1767	English	Mass.	1825	58	Rep.‡	Washington, D. C	1848	80
7	Andrew Jackson	Union Co., N. C.*	1767	Scotch-Irish	Tenn.	1829	62	Dem.	Hermitage, Tenn	1845	78
8	Martin Van Buren	Kinderhook, N. Y	1782	Dutch	N. Y.	1837	55	Dem.	Lindenwold, N. Y	1862	79
9	William H. Harrison	Berkeley, Va	1773	English	O	1841	68	Whig	Washington, D. C	1841	68
10	John Tyler	Greenway, Va	1790	English	Va	1841	51	Dem.	Richmond, Va	1862	72
11	James K. Polk	Mecklenburg Co., N. C.	1795	Scotch-Irish	Tenn.	1845	50	Dem.	Nashville, Tenn	1849	53
12	Zachary Taylor	Orange Co., Va	1784	English	La	1849	65	Whig	Washington, D. C	1850	65
13	Millard Fillmore	Summerhill, N. Y	1800	English	N. Y.	1850	50	Whig	Buffalo, N. Y	1874	74
14	Franklin Pierce	Hillsboro, N. H	1804	English	N. H.	1853	49	Dem.	Concord, N. H	1869	64
15	James Buchanan	Cove Gap, Pa	1791	Scotch-Irish	Pa	1857	66	Dem.	Wheatland, Pa	1868	77
16	Abraham Lincoln	Larue Co., Ky	1809	English	Ill	1861	52	Rep.	Washington, D. C	1865	56
17	Andrew Johnson	Raleigh, N. C	1808	English	Tenn.	1865	57	Rep.	Carter's Depot, Tenn	1875	66
18	Ulysses S. Grant	Point Pleasant, O	1822	Scotch	D. C.	1869	47	Rep.	Mt. McGregor, N. Y	1885	63
19	Rutherford B. Hayes	Delaware, O	1822	Scotch	O	1877	54	Rep.	Fremont, O	1893	70
20	James A. Garfield	Cuyahoga Co., O	1831	English	O	1881	49	Rep.	Long Branch, N. J	1881	49
21	Chester A. Arthur	Fairfield, Vt	1830	Scotch-Irish	N. Y.	1881	51	Rep.	New York City	1886	56
22	Grover Cleveland	Caldwell, N. J	1837	English	N. Y.	1885	48	Dem.	Princeton, N. J	1908	71
23	Benjamin Harrison	North Bend, O	1833	English	Ind.	1889	55	Rep.	Indianapolis, Ind	1901	67
24	Grover Cleveland	Caldwell, N. J	1837	English	N. Y.	1893	56	Dem.	Princeton, N. J	1908	71
25	William McKinley	Niles, O	1843	Scotch-Irish	O	1897	54	Rep.	Buffalo, N. Y	1901	58
26	Theodore Roosevelt	New York City	1858	Dutch	N. Y.	1901	43	Rep.			
27	William H. Taft	Cincinnati, O	1857	English	Ohio	1909	51	Rep.			
28	Woodrow Wilson§	Staunton, Va	1856	Irish	N. J.		56	Dem.			

* Jackson called himself a South Carolinian, and his biographer, Amos Kendall, recorded his birthplace in Lancaster County, S. C.; but Parton has published documentary evidence to show that Jackson was born in Union County, N. C., less than a quarter mile from the South Carolina line.

† The Democratic party of to-day claims lineal descent from the first Republican party, and President Jefferson as its founder.

‡ Political parties were disorganized at the time of the election of John Quincy Adams. He claimed to be a Republican, but his doctrines were decidedly Federalistic. The opposition to his Administration took the name of Democrats, and elected Jackson President.

§ President-elect.

THE NAMES OF THE STATES AND THEIR MEANING

Alabama—Indian; "Here we rest."
Alaska—Eskimo; *Alakshak* or *Alayeksa;* "The main land."
Arizona—Indian; *Arizonac;* "Small Springs" or "Few Springs."
Arkansas—Indian; *Kansas;* "Smoky Water;" and French prefix "arc;" "bow" or "bend"; hence, "The Bow in the Smoky Water."
California—Spanish ; *Caliente Fornalla;* "Hot Furnace."
Colorado—Spanish; *Colorado;* "colored;" from the red color of the Colorado river.
Connecticut — Indian; *Quonektakut,* the present Connecticut river; "Long River."
Delaware—After Lord De la Warr, one of the early proprietors. Delaware, however, remained a part of Pennsylvania until the time of the Revolution.
Florida—Spanish *Pascua de Flores;* "Feast of Flowers;" because discovered on Easter Day.
Georgia—After George II of England, who chartered it as a colony in 1732.
Hawaii—Native name; called by Captain Cook the "Sandwich Islands" after Lord Sandwich.
Idaho—Indian; "Gem of the Mountains."
Illinois—Indian *illini* and French suffix *ois;* "Tribe of Men."
Indiana—Latin; "Indians' Land."
Iowa—Indian; "Beautiful Land."
Kansas—Indian; "Smoky Water."
Kentucky—Indian; "At Head of the River," or "The Dark and Bloody Ground."
Louisiana — After Louis XIV of France.
Maine—After the province of Maine, France.
Maryland—After Queen Henrietta Maria, wife of King Charles I, of England.
Massachusetts—Indian; "Place of Blue Hills."
Michigan—Indian; "Fish Weir."
Minnesota — Indian; "Sky-tinted Water."
Mississippi—Indian; "Great Father of Waters."
Missouri—Indian; "Muddy (river)."
Montana—Latin; fem. of *montanus;* "Mountainous."
Nebraska—Indian; "Water Valley," or "Black Water."
Nevada—Spanish; "Snow-Covered."
New Hampshire—After Hampshire, a county in England. In its territorial days, a part of it was called Laconia.
New Jersey—After Sir George Carteret, governor of the island of Jersey. Jersey was originally *Cæserea,* or Cæsar's Land.
New Mexico—So named because it formerly belonging to old Mexico.
New York—After the Duke of York, to whom his brother, Charles II, of England, ceded it as a province.
North and South Carolina—Originally *Carolina;* after Charles IX (Carolus) of France.
North and South Dakota—Indian *Dakota;* "Allies."
Ohio—Indian; "Beautiful River."
Oklahoma—Indian; "Home of the Red Men."
Oregon—Spanish *oregano*—the wild marjoram, abundant on the coast.
Pennsylvania—Latin; "Penn's Woodland."
Philippine Islands—Spanish *Islas Filipinas;* after King Philip. [Filippo.]
Porto Rico—Spanish *Puerto Rico;* "Rich Harbor."
Rhode Island—After the island of Rhodes.
Tennessee—Indian; "River with the Great Bend."
Texas—Very old Indian, in different forms; "Friends."
Utah—After the *Utah* or *Ute* Indian tribe.

Vermont—French; "Green Mountain."
Virginia—After Elizabeth, the "Virgin Queen" of England.
Washington—After George Washington.
West Virginia—So named because formerly the western part of Virginia. It became an independent State in December 31, 1862, it having seceded from Virginia and shown its loyalty to the Union.
Wisconsin—Indian; "Gathering of the Waters."
Wyoming—Indian; "Great Plains."

THE NICKNAMES OF THE STATES AND THE REASON

Alabama—"The Cotton State," from its chief production.
Alaska—"The Eldorado of the North."
Arizona—No nickname.
Arkansas—"The Bear State," because bears swarmed in its bayous during its early history.
California—"El Dorado," or "Golden Land."
Colorado—"The Centennial State," as being admitted into the Union in 1876, the Centennial Year.
Connecticut—"The Nutmeg State," because its people were humorously said to have been so enterprising as to have made nutmegs out of wood, and then palming them off on unsuspecting purchasers.
Delaware—"The Blue Hen State." During the Revolution the commander of a brigade in Delaware was a veteran cock-fighter, who always bet on "The blue hen's chickens." Thence, the name came to be applied to the members of his brigade, and finally to the State itself. Also, "The Diamond State," as small and precious.
Florida—"The Gulf State;" but oftener "The Flowery State," from its name.
Georgia—"The Cracker State," from the "crackers" or poor whites who inhabited it before its present prosperity.
Hawaii—(Territory).
Idaho—"The Gem of the Mountains."
Illinois—"The Sucker State," so called in derision by the Missourians.
Indiana—"The Hoosier State," from the word "hoosher," a word applied by the merchants of New Orleans to Indiana boatmen because of their boisterous manners and perpetual bragging. [Creole-French.]
Iowa—"The Hawkeye State," so named from an Indian Chief, Black Hawk, who figured in its early history.
Kansas—Known as "The Central State" from its geographical position, and also because in the history of the Union the Kansas struggle hastened the climax in politics; also "The Prairie State," and "The Sunflower State."
Kentucky—"The Blue Grass State," because of its magnificent pastures.
Louisiana—"The Creole State," because of the large number of Creoles among its population.
Maine—Is generically known as "Down East," and is also called "The Lumber State" from its extensive forests; or, more poetically, "The Pine Tree State."
Maryland—Because in Colonial Days it refused to alter its boundaries to please Lord Baltimore and William Penn, it received the nickname of "The Old Line State."
Massachusetts—Was called "The Old Bay Colony" in very early times. Hence after it became a State it was styled "The Old Bay State."
Michigan—"The Lake State," because of its geographical position.
Minnesota—"The Gopher State," as containing so many of these little animals.
Mississippi—"The Bayou State," from the numerous bayous or chan-

nels which enter it from the Gulf of Mexico.

Missouri—"The Bullion State," a name which it received when its most eminent Senator, Thomas H. Benton, himself known as "Old Bullion," contended vigorously for the adoption of gold and silver currency.

Montana—"The Mountain State."

Nebraska—"The Black Water State," from its Indian name.

Nevada—Is variously known as "The Battle State," because it was admitted into the Union during the Civil War; "The Silver State," because of its immense yield of silver at one time, and finally "The Sage-Brush State."

New Hampshire—"The Granite State" from its great mountains of granite, which are supposed to typify the strength and hardiness of its people.

New Jersey—"The Red Mud State" because of the color of much of its soil. In 1817 its legislature allowed Joseph Bonaparte, the ex-king of Spain and an alien, to hold real estate. This led to a gibe in other States, to the effect that New Jersey had left the Union to be under the rule of a king; hence, for a while it was called "The Dominion."

New Mexico—"The Adobe State."

New York—Long known as "The Empire State," because of its commercial supremacy and political importance. It is also known as "The Excelsior State" from the motto on its coat-of-arms.

North Carolina—Called "The Old North State" as distinguishing it from South Carolina.

North Dakota—"The Cyclone State."

Ohio—"The Buckeye State," because it abounds in horse-chestnut trees, locally known as "buckeyes."

Oklahoma — "The Boomer State," from its rapid growth and energy.

Oregon—"The Beaver State," from the early fur-trade first carried on by John Jacob Astor.

Pennsylvania—"The Keystone State," because in early days, when there were only thirteen States, a popular wood-cut represented the States in the form of an arch, in which Pennsylvania occupied the position of the keystone.

Philippine Islands—(Dependency).

Puerto Rico—(Territory).

Rhode Island — Somewhat fondly called "Little Rhody," because it is the smallest State in the Union.

Tennessee—Known first as "The Old Franklin State," because it bore the name of Franklin from 1785 to 1788.

South Carolina — "The Palmetto State," because its coat-of-arms bears a palmetto tree.

South Dakota — "The Blizzard State," because of its terrific storms.

Texas—"The Lone-Star State," from the single star on its coat-of-arms.

Utah—"The Mormon State," because it was so long controlled by the Mormon Church and its leaders.

Vermont — "The Green Mountain State," from its mountain ranges.

Virginia—This State has many nicknames. Its first was "Old Virginia," to distinguish it from the New England Colonies which were in colonial times often styled "New Virginia." The State documents sent by the King of England to the Governor were headed: "To the Colony and Dominion of Virginia," so that "Old Dominion" became a frequent term for this colony and is still often used. As Virginia was the first of the original States to be settled, it was also styled "The Mother of States;" and later, after it had given seven Presidents to the nation, it was called "The Mother of Presidents."

Washington—No nickname.

West Virginia — "The Panhandle State," because of its peculiar configuration between the Ohio River and Pennsylvania.

Wisconsin — "The Badger State," from the number of badgers which swarmed within its limits before it was inhabited; also "The Wolverine State."

Wyoming.—No nickname.

LEGAL HOLIDAYS IN THE VARIOUS STATES

January 1. New Year's Day: In all States (including D. C. and Alaska), except Kans. and Mass. (In Me. a bank holiday only legally.)

January 8. Anniversary of the Battle of New Orleans: In La.

January 19. Lee's Birthday: In Fla., Ga., N. C., S. C., Va., Ala., and Ark.

February. Mardi-Gras (Shrove Tuesday): In the parish of Orleans, La.

February 12. Georgia Day: In Ga.

February 12. Lincoln's Birthday: In Cal., Colo., Conn., Del., Ill., Ia., Ind., Kans., Mich., Minn., Mont., Nev., N. J., N. Y., N. D., Penn., S. D., Ut., Wash., W. Va., and Wyo.

February 22. Washington's Birthday: In all the States, District of Columbia and Alaska.

March (Third Tuesday). **Primary Election Day:** (every Presidential year) in North Dakota.

March 2. Anniversary of Texan Independence: In Texas.

March 4. Inauguration Day: In D. C. in years when a President of the U. S. is inaugurated.

April (First Monday). **Annual Spring Election:** In Michigan.

April 12. Halifax Independence Resolutions: In North Carolina.

April 13. Thomas Jefferson's Birthday: In Alabama.

April 5, 1912. Good Friday: In Ala., Conn., Del., Fla., La., Md., Minn., N. J., Penn., Tenn.

April 19. Patriots' Day: In Maine and Massachusetts.

April 21. Anniversary of the Battle of San Jacinto: In Texas.

April 26. Confederate Memorial Day: In Ala., Fla., Ga., and Miss.

May 10. Confederate Memorial Day: In N. C. and S. C.

May (Second Friday). **Confederate Day:** In Tennessee.

May 20. Anniversary of the Signing of the Mecklenburg Declaration of Independence: In N. C.

May 30. Decoration Day: In all the States (and D. C. and Alas.), except Fla., Ga., La., Miss., N. C., S. C., Tenn., and Tex.

June 3. Jefferson Davis's Birthday: In Fla., Ga., Ala., Miss., Tenn., Tex. and S. C. In La., known as "Confederate Memorial Day." In Va., in public schools.

June (Last Wednesday). **Primary Election Day:** In North Dakota.

July 4. Independence Day: In all the States, and D. C. and Alas.

July 10. Admission Day: In Wyo.

July 24. Pioneers' Day: In Utah.

July (Fourth Saturday) **Primary Election Day:** In Texas.

August. Primary Election Day: In Mo. In Mich. (last Tuesday preceding every general Nov. election).

August 1. Colorado Day: In Colo.

August 16. Bennington Battle Day: In Vermont.

September. Labor Day (First Monday): In all the States (and D. C. and Alas.). In La., observed in Orleans Parish. In Wyo. by proclamation of the Governor.

September Primary Election Day: In Wis., First Tuesday. In Ore., even years.

September 9. Admission Day: In California.

September 12. Old Defenders' Day: In Baltimore, Md.

October 12. Columbus Day: In Ark., Cal., Colo., Conn., Del., Ida., Ill., Ind., Kans., Ky., Md., Mass., Mich., Mo., Mont., N. J., N. Y., Okla., Penn., R. I., Tex., Vt., Wash.

October 31. Admission Day: In Nevada.

November 1. All Saints' Day: In La.

November (first Friday). **Pioneer Day:** In Mont., observed in public schools.

November—General Election Day: In Ariz., Cal., Colo., Del., Fla., Ida., Ill. (in Cairo, Chicago, Danville, East St. Louis, Galesburg, Rockford and Springfield), Ind., Ia., Ky., La., Me., Md., Mich., Minn., Mo., Mont., Nev., N. H., N. J., N. Mex., N. Y., N. C., N. D., O. (from 5.30 A.M. to 9 A.M. only), Okla., Ore., Penn., R. I., S. C., S. D., Tenn., Tex., Va., W. Va., Wash., Wis., and Wyo., in the years when elections are held therein.

November — Thanksgiving Day (usually the last Thursday in November): Is observed in all the States, and in the D. C. and Alas., though in some States it is not a statutory holiday.

December 25. Christmas Day: In all the States (except Kans.), and D. C. and Alas.

Sundays and Fast Days are legal holidays in all the States which designate them as such. There is no national holiday, not even the Fourth of July.

THE WEALTH OF THE WORLD

In Actual Money.

(According to the Bureau of Statistics, Department of Commerce and Labor.)

WEALTH OF NATIONS.

These are the latest estimates:

United States	$130,000,000,000	Italy	$20,000,000,000
Great Britain and Ireland	80,000,000,000	Belgium	9,000,000,000
France	65,000,000,000	Spain	5,400,000,000
Germany	60,500,000,000	Netherlands	5,000,000,000
Russia	40,000,000,000	Portugal	2,500,000,000
Austria-Hungary	25,000,000,000	Switzerland	2,400,000,000

MONEY IN CIRCULATION IN THE UNITED STATES

Classification.	General Stock of Money in the United States.	Held in Treasury as Assets of the Government.	Amount in Circulation.	
	July 1, 1912.	July 1, 1912.	July 1, 1912.	July 1, 1900.
Gold Coin (including bullion in Treasury)	$1,813,499,440	$165,996,878	$607,445,193	$617,977,830
Gold Certificates	.....	97,365,185	942,692,184	161,122,797
Standard Silver Dollars	565,350,367	13,470,641	70,330,726	70,420,047
Silver Certificates	.....	12,499,770	[469,049,230	395,040,816
Subsidiary Silver	106,812,806	25,581,048	141,231,758	76,651,321
Treasury Notes of 1890	2,929,000	9,905	2,919,095	86,934,351
United States Notes	346,681,016	8,758,893	337,922,123	318,269,365
National Bank Notes	745,134,992	39,938,688	705,196,304	242,001,643
Total	$3,640,407,621	$363,621,008	$3,276,786,613	*$1,980,398,170
Circulation per capita	.....	.....	$34.26	$26.94

* Includes $11,980,000 in currency certificates of 1872.

ELECTORAL VOTE

The following is the electoral vote of the States as based upon the Apportionment Act of 1900.

States	Elect'l Votes	States	Elect'l Votes	States	Elect'l Votes	States	Elect'l Votes
Alabama	11	Kansas	10	Nevada	3	South Dakota	4
Arkansas	9	Kentucky	13	New Hampshire	4	Tennessee	12
California	10	Louisiana	9	New Jersey	12	Texas	18
Colorado	5	Maine	6	New York	39	Utah	3
Connecticut	7	Maryland	8	North Carolina	12	Vermont	4
Delaware	3	Massachusetts	16	North Dakota	4	Virginia	12
Florida	5	Michigan	14	Ohio	23	Washington	5
Georgia	13	Minnesota	11	Oklahoma	7	West Virginia	7
Idaho	3	Mississippi	10	Oregon	4	Wisconsin	13
Illinois	27	Missouri	18	Pennsylvania	34	Wyoming	3
Indiana	15	Montana	3	Rhode Island	4		
Iowa	13	Nebraska	8	South Carolina	9	Total	483

Electoral votes necessary to a choice of President and Vice-President.....242

VALUE OF FOREIGN COINS IN UNITED STATES MONEY.

Compiled from circulars issued by the Director of the United States Mint, July 1, 1912.

COUNTRY	Standard	Monetary Unit	Value in U.S. Gold Dollar	Coins
Argent. R..	Gold...	Peso.....	$0.96.5	Gold: argentine ($4.82.4) and ½ argentine. Silver: peso and divisions.
Austria-H..	Gold...	Crown.....	.20.3	Gold: former system—4 florins ($1.92.9), 8 florins ($3.85.8), ducat ($2.28.7), and 4 ducats ($9.14.9). Silver: 1 and 2 florins. Gold: present system—20 crowns ($4.05.2) and 10 crowns ($2.02.6).
Belgium....	Gold...	Franc.....	.19.3	Gold: 10 and 20 francs. Silver: 5 francs.
Bolivia.....	Gold...	Boliviano.....	.38.9	Gold: boliviano and divisions.
Brazil.....	Gold...	Milreis.....	.54.6	Gold: 5, 10, and 20 milreis. Silver: ½, 1, and 2 milreis.
Canada....	Gold...	Dollar.....	1.00	
Cent. Am...	Silver..	Peso†	.38.9	Silver: peso and divisions.
Chile.....	Gold...	Peso.....	.36.5	Gold: escudo ($1.82.5), doubloon ($3.65), and condor ($7.30). Silver: peso and divisions.
		Shanghai..	.66.2	
China.....	Silver..	Tael‡ .....Tientsin...	.70.2	
		Canton....	.72.3	
Colombia ..	Gold...	Dollar.....	1.00	Gold: condor ($9.64.7) and double condor. Silver: peso.
Costa Rica.	Gold...	Colon.....	.46.5	Gold: 2, 5, 10, amd 20 colons ($9.30.7). Silver: 5, 10, 25, and 50 centimes.
Cuba.....	Gold...	Peso.....	.92.6	Gold: doubloon ($5.01.7); Alphonse ($4.82.3). Silver: peso.
Denmark ..	Gold...	Crown.....	.26.8	Gold: 10 and 20 crowns.
Ecuador ...	Gold...	Sucre.....	.48.7	Gold: 10 sucres ($4.86.65). Silver: sucre and divisions.
Egypt	Gold...	Pound (100 piasters)..	4.94.3	Gold: pound (100 piasters), 5, 10, 20 and 50 piasters. Silver: 1, 2, 5, 10, and 20 piasters.
France.....	Gold...	Franc.....	.19.3	Gold: 6, 10, 20, 50, and 100 frs. Silver: 5 frs.
Germany ..	Gold...	Mark.....	.23.8	Gold: 6, 10, and 20 marks.
Gt. Britain.	Gold...	Pound sterling.....	4.86.6½	Gold: sovereign (pound st'ling) and ½ so'gn.
Greece.....	Gold...	Drachma.....	.19.3	Gold: 5, 10, 20, 50, and 100 drachmas. Silver: 5 drachmas.
Haiti.....	Gold...	Gourde.....	.96.5	Gold: 1, 2, 5, and 10 gourdes. Silver: gourde and divisions.
India.....	Gold...	Sovereign §.....	4.86.6½	Gold: sov. ($4.86.65). Sil.: rupee and div'ns.
Italy.....	Gold...	Lira.....	.19.3	Gold: 6, 10, and 20 lire. Silver: 5 lire.
Japan.....	Gold...	Yen.....	.49.8	Gold: 1, 2, 5, 10, and 20 yen. Silver: 10, 20, and 50 sen.
Mexico	Gold...	Peso.....	.49.8	Gold: dollar ($0.98.3), 2½, 5, 10, and 20 dollars. Silver: dollar (or peso) and divisions.
Neth'lands..	Gold...	Florin.....	.40.2	Gold: 10 florins. Silver: ½, 1, and 2½ florins.
N'foundl'd..	Gold...	Dollar.....	1.01.4	Gold: 2 dollars ($2.02.7).
Norway.....	Gold...	Crown.....	.26.8	Gold: 10 and 20 crowns.
Panama....	Gold...	Balboa.....	1.00	.....
Peru.....	Gold...	Libra.....	4.86.6½	Gold: libra ($4.86.65). Sil.: sol and div'ns.
Philippines.	Gold...	Peso.....	.50.0	.....
Portugal ...	Gold...	Milreis.....	1.08	Gold: 1, 2, 5, and 10 milreis.
Rumania...	Gold...	Seu.....	.19.3	.....
Russia.....	Gold...	Ruble.....	.51.5	Gold: imperial ($7.71.8) and ½ imperial, 7½ rubles ($3.86). Silver: ¼, ½, and 1 ruble.
Servia	Gold...	Dinar.....	.19.3	.....
Spain.....	Gold...	Peseta.....	.19.3	Gold: 25 pesetas. Silver: 5 pesetas.
Sweden	Gold...	Crown.....	.26.8	Gold: 10 and 20 crowns.
Switz'land ..	Gold...	Franc.....	.19.3	Gold: 6, 10, and 20 francs. Silver: 5 francs.
Turkey	Gold...	Piaster.....	.04.4	Gold: 25, 50, 100, 250, and 500 piasters.
Uruguay...	Gold...	Peso.....	1.03.4	Gold: peso. Silver: peso and divisions.
Venezuela..	Gold...	Bolivar.....	.19.3	Gold: 5, 10, 20, 50, and 100 bolivars. Silver: 5 bolivars.

*The coins of silver-standard countries are valued by their pure silver contents, at the average market price of silver for the three months preceding the date of this circular. † Not including Costa Rica. ‡ The British dollar has the same value as the Mexican at Hong Kong and the Straits Settlement. Chinese republic planned new monetary system in 1912. § The sovereign is the standard coin of India, but the rupee (0.32.4) is the money of account, current at 15 to the sovereign.

TABLE SHOWING THE VALUE OF FOREIGN COINS AND PAPER NOTES IN AMERICAN MONEY BASED UPON THE VALUES EXPRESSED IN THE ABOVE TABLE

Number	British £ Sterling	German Mark	French Franc, Italian Lira	Chinese Tael, (Shanghai)	Dutch Florin	Indian Rupee	Russian Gold Ruble	Austrian Crown
1	$4.86.6½	$0.23.8	$0.19.3	$0.60.2	$0.42.0	$0.32.4	$0.51.5	$0.20.3
2	9.73.3	0.47.6	0.38.6	1.20.4	0.80.4	0.64.8	1.03	0.40.6
3	14.59.9½	0.71.4	0.57.9	1.80.6	1.20.6	0.97.2	1.54.5	9.60.9
4	19.46.6	0.95.2	0.77.2	2.40.8	1.60.8	1.29.6	2.06	0.81.2
5	24.33.2½	1.19	0.96.5	3.01	2.01	1.62	2.57.5	1.01.5
6	29.19.9	1.42.8	1.15.8	3.61.2	2.41.2	2.04.4	3.09	1.21.8
7	34.06.5½	1.66.6	1.35.1	4.21.4	2.81.4	2.36.8	3.60.5	1.42.1
8	38.93.2	1.90.4	1.54.4	4.81.6	3.21.6	2.59.2	4.12	1.62.4
9	43.79.8½	2.14.2	1.73.7	5.41.8	3.61.8	2.91.6	4.63.5	1.82.7
10	48.66.5	2.38	1.93	6.02.2	4.02	3.24	5.15	2.03
20	97.33	4.76	3.86	12.04	8.04	6.48	10.30	4.06
30	145.99.5	7.14	5.79	18.06	12.06	9.72	15.45	6.09
40	194.66	9.52	7.72	24.08	16.08	12.96	20.60	8.12
50	243.32.5	11.90	19.65	30.10	20.10	16.20	25.75	10.15
100	486.65	23.80	9.30	60.20	40.20	32.40	51.50	20.30

FACTS ABOUT THE EARTH.

SHAPE AND SIZE OF THE EARTH: The earth is very nearly an oblate spheroid, whose shorter axis coincides with its axis of rotation passing through the two poles.

According to Colonel Clarke's calculations, its major axis measures 41,852,124 feet, or 7,926.5 statute miles; its minor axis 41,710,242 feet, or 7,809.5 statute miles; its circumference along the Equator measures 24,902 statute miles, or 21,600 geographical miles; its total area 196,940,400 statute square miles; and its volume 259,880 million cubic miles.

Of this total area, 8.4 per cent. (16,464,700 sq. m.) are within the Arctic and Antarctic regions; 51.6 per cent. (102,244,654 sq. m.) within the two temperate regions; 40 per cent. (78,231,046 sq. m.) within the Tropics.

THE LAND: The land covers 54,807,420 sq.m., on the assumption that 250,000 sq. m. of land remain to be discovered within the Arctic Regions, and that the supposed Antarctic continent, or "Antarctis," has an extent of 2,500,000 sq. m. within the Antarctic Circle.

THE OCEANS: The oceans, including the inland seas connected with them, cover 142,132,980 sq. m., or 72 per cent. of the total surface of the earth. There are 2.59 sq. m. of ocean to every sq. m. of land. This area is distributed over the different areas as follows: Arctic Ocean, including Hudson Bay, 5,785,000 sq. m.; Atlantic Ocean, 34,301,400 sq. m.; Indian Ocean, 28,615,600 sq. m.; Pacific Ocean, 67,699,630 sq. m.; Antarctic Ocean, 5,731,350 sq. m.

HEIGHTS AND DEPTHS: The mean height of the land has been estimated at 2,440 feet; the mean depth of the sea 11,470 feet (Karstans). The highest mountain (Mt. Everest) rises to a height of 29,000 feet; the greatest depth of the ocean as yet discovered (in the Pacific, between Guam and Midway) is 31,614 feet. If the whole of the solid crust of the earth were to be levelled, so as to form a spheroid, it would still be covered by an ocean of a uniform depth of 8,000 feet (Prof. Penck).

WEDDING ANNIVERSARIES.

First—Cotton.
Second—Paper.
Third—Leather.
Fourth—Fruit and Flowers.
Fifth—Wooden.
Sixth—Sugar.
Seventh—Woollen.
Eighth—India Rubber.
Ninth—Willow.
Tenth—Tin.
Eleventh—Steel.
Twelfth—Silk and Fine Linen.
Thirteenth—Lace.
Fourteenth—Ivory.
Fifteenth—Crystal.
Twentieth—China.
Twenty-fifth—Silver.
Thirtieth—Pearl.
Fortieth—Ruby.
Fiftieth—Golden.
Seventy-fifth—Diamond.

THE METRIC SYSTEM
OF
WEIGHTS AND MEASURES*

LENGTH.

METRIC DENOMINATIONS AND VALUES.		EQUIVALENTS IN CUSTOMARY UNITS.
Myriameter	10,000 meters	6.2137 miles.
Kilometer	1,000 meters	0.62137 mile, or 3280 feet and 10 inches.
Hectometer	100 meters	328 feet and 1 inch.
Dekameter	10 meters	393.7 inches.
Meter	1 meter	39.37 inches.
Decimeter	$\frac{1}{10}$ of a meter	3.937 inches.
Centimeter	$\frac{1}{100}$ of a meter	0.3937 inch.
Millimeter	$\frac{1}{1000}$ of a meter	0.0394 inch.

AREA.

METRIC DENOMINATIONS AND VALUES.		EQUIVALENTS IN CUSTOMARY UNITS.
Hectare	10,000 square meters	2.471 acres.
Are	100 square meters	119.6 square yards.
Deciare	10 square meters	11.96 square yards.
Centare	1 square meter	1,550 square inches.
Milliare	1 square centimeter	0.1550 square inches.

CAPACITY AND VOLUME.

METRIC DENOMINATIONS AND VALUES.			EQUIVALENTS IN CUSTOMARY UNITS	
Names.	No. of liters.	Cubic Measure.	Dry Measure.	Liquid or Wine Measure.
Kiloliter, or Stere	1,000	1 cubic meter	1.3079 cubic yards	264.17 gallons.
Hectoliter	100	$\frac{1}{10}$ of a cubic meter	2 bushels and 3.35 pecks	26.417 gallons.
Dekaliter	10	10 cubic decimeters	9.081 quarts	2.6417 gallons.
Liter	1	1 cubic decimeter	0.9081 quart	1.05668 quarts.
Deciliter	$\frac{1}{10}$	$\frac{1}{10}$ of a cubic decimeter	6.1022 cubic inches	0.845 gill.
Centiliter	$\frac{1}{100}$	10 cubic centimeters	0.6102 cubic inch	0.3381 fluid oz.
Milliliter	$\frac{1}{1000}$	1 cubic centimeter	0.061 cubic inch	0.2705 fluid dram.

WEIGHT (OR MASS).

METRIC DENOMINATIONS AND VALUES.			EQUIVALENTS IN CUSTOMARY UNITS.	
Names.	Number of grams.	Weight of what quantity of water at maximum density.	Avoirdupois Weight.	Troy Weight.
Millier or Tonneau	1,000,000	1 cubic meter	2,204.62 pounds	2,679.23 pounds.
Quintal	100,000	1 hectoliter	220.462 pounds	267.923 pounds.
Myriagram	10,000	10 liters	22.0462 pounds	26.7923 pounds.
Kilogram or Kilo	1,000	1 liter	2.20462 pounds	2.67923 pounds.
Hectogram	100	1 deciliter	3.5274 ounces	3.215 ounces.
Dekagram	10	10 cubic centimeters	0.3527 ounce	0.3215 ounces.
Gram	1	1 cubic centimeter	15.4327 grains	0.03215 ounces.
Decigram	$\frac{1}{10}$	$\frac{1}{10}$ of a cubic centimeter	1.5432 grains	1.54324 grains.
Centigram	$\frac{1}{100}$	10 cubic millimeters	0.1543 grains	0.15432 grains.
Milligram	$\frac{1}{1000}$	1 cubic millimeter	0.0154 grains	0.01543 grains.

* "The International Metric System of Weights and Measures." Bureau of Standards, 1906.

THE ARMY OF THE UNITED STATES

The General Staff of the United States Army consists of Major General Leonard Wood, who is Chief of Staff, Major General William H. Carter and Brigadier General Arthur Murray associated with a number of minor officers ranging in rank from Colonels to Captains. The Army is organized under three Acts of Congress (1901, 1907 and 1908). It comprises: (1) 15 regiments of cavalry, with 13,000 enlisted men; (2) 6 regiments of field artillery, with 5,000 enlisted men; (3) a corps of coast artillery, 170 companies, with 20,000 enlisted men; (4) 30 regiments of infantry, with 25,000 enlisted men; (5) 3 battalions of engineers, with 2,000 enlisted men; (6) Puerto Rican Infantry, Service School detachments and 52 companies of native scouts in the Philippines, all amounting to about 20,000 men. The law requires that at no time shall the enlisted strength of the Army amount to more than 100,000 men. At present it falls below that number, and contains from 75,000 to 77,000 men, including officers. There is also the Marine Corps with 332 officers and 9,000 enlisted men. The Army is further strengthened in time of war by the enlisted and organized militia, of which every State except Nevada contains at least a regiment or more. The total number of enlisted men in the militia is reported at 112,000 men while the commissioned officers of all grades are reported as numbering 9,133. In time of invasion all able-bodied men under the age of 45 may be called upon as a General Reserve Force. Such a militia would number, according to recent estimates, 15,493,125.

THE NAVIES OF THE WORLD

POWERS	Modern Battleships	Older Battleships	First-Class Cruisers	Second-Class Cruisers	Third-Class Cruisers	Gunboats	Monitors	Destroyers	Torpedo Boats	Submarines	Personnel Officers and Men
Great Britain	39	23	53	34	34	..	..	153	116	84	126,272
United States	24	9	15	3	14	21	10	40	33	35	51,296
Germany	28	9	13	6	32	47	..	116	70	14	35,500
Japan	11	4	13	4	13	6	..	58	48	14	40,000
France	13	10	15	12	21	14	..	83	150	88	30,599
Italy	7	5	7	3	13	13	..	33	75	19	29,941
Austria-Hungary	9	3	8	5	..	4	..	9	18	..	12,899
Russia	11	6	6	..	2	8	..	87	74	37	60,000
Sweden	5	7	1	..	..	5	11	6	51	10	4,000
Norway	4	..	..	..	..	3	2	...	29	..	1,130
Denmark	..	..	..	..	..	3	3	...	13	..	4,000
Netherlands	9	..	7	..	..	1	1	...	50	1	8,572
Spain	1	..	8	..	..	..	..	5	6	..	5,000
Portugal	..	..	6	..	..	19	..	2	4	2	6,000
Greece	..	3	..	..	..	8	..	...	12	..	4,000
Turkey	..	5	1	2	2	2	..	4	8	..	30,800
Argentina	3	1	5	2	2	2	..	4	8	..	5,000
Brazil	3	1	1	1	3	5	..	...	...	..	8,000
Chile	2	1	1	3	1	2	..	6	14	..	8,000
China	..	..	1	3	..	..	..	...	...	..	.....
Siam	..	..	..	1	..	..	..	...	...	..	5,110
Mexico	..	..	..	..	5	..	..	2	...	..	1,160

[NOTE.—The German Empire is now the second sea-power in the world, being surpassed only by Great Britain. Observe that while the United States has a Naval Reserve of little more than 6,000 men and Great Britain one of 23,000 men, the trained and disciplined reserve of Germany is a force, which, counting both officers and men, amounts to more than 115,000. The United States is superior to it only in third-class cruisers and in monitors which are well-nigh obsolete.]

TIME DIFFERENCE

BETWEEN THE CITY OF NEW YORK AND THE PRINCIPAL FOREIGN CITIES.

LATER THAN NEW YORK	H. M.		H. M.		H. M.	EARLIER THAN NEW YORK	H. M.
Antwerp	5 13.5	Dublin	4 30.5	Paris	5 5.2	Havana	0 33.5
Berlin	5 49.5	Edinburgh	4 43.2	Rio de Janeiro	2 3.2	Hong Kong	11 27.6
Bremen	5 31.0	Geneva	5 20.5	Rome	5 45.8	Melbourne	9 24.2
Brussels	5 13.4	Hamburg	5 35.8	St Petersburg	6 57.1	Mexico, City of	1 40.5
Buenos Ayres	1 2.4	Liverpool	4 43.6	Valparaiso	0 9.3	Panama	0 22.2
Calcutta	10 49.2	London	4 55.9	Vienna	6 1.2	Yokohama	9 45.5
Constantinople	6 51.9	Madrid	4 41.1	Halifax	0 41.5		

THE ARMIES OF THE WORLD

COUNTRIES	PEACE STRENGTH	RESERVES	TOTAL WAR STRENGTH	AVAILABLE FOR DUTY UNORG.
Germany	620,000	3,380,000	4,000,000	2,000,000
France	600,000	1,500,000	2,100,000	1,000,000
Russia	1,200,000	3,300,000	4,500,000	5,200,000
Austria-Hungary	387,000	1,413,000	1,800,000	1,600,000
Italy	225,000	300,000	525,000	1,200,000
Great Britain	257,000	543,000	800,000	1,700,000
Japan	450,000	1,050,000	1,000,000	1,300,000
Spain	80,000	420,000	500,000	780,000
Belgium	40,000	125,000	165,000	350,000
Netherlands	34,000	68,000	102,000	200,000
Denmark	13,000	57,000	70,000	125,000
Sweden	28,000	300,000	328,000	200,000
Norway	18,000	95,000	113,000	100,000
Portugal	30,000	90,000	120,000	200,000
Bulgaria	52,500	297,500	350,000	100,000
Servia	35,000	140,000	175,000	90,000
Roumania	70,000	250,000	320,000	175,000
Switzerland	200,000	54,000	254,000	50,000
Turkey	375,000	350,000	725,000	2,000,000
Greece	25,000	25,000	50,000	200,000
China	90,000	100,000	190,000	.....
Mexico	26,600	58,000	84,600	1,000,000
Brazil	28,000	25,000	53,000	1,000,000
Argentina	17,000	223,000	240,000	500,000
Chile	15,000	132,000	147,000	250,000
Peru	4,000	46,000	50,000	75,000
Venezuela	5,600	75,000	80,600	300,000
Bolivia	3,000	50,000	53,000	125,000
Colombia	5,000	45,000	50,000	200,000
Guatemala	7,000	50,000	57,000	50,000
Ecuador	4,300	40,000	44,300	50,000
Salvador	3,000	18,000	21,000	40,000
Nicaragua	3,000	27,000	30,000	20,000
Uruguay	4,000	36,000	40,000	40,000
Haiti	6,000	.....	6,000	60,000

[NOTE.—The above figures are based upon official reports up to July, 1911. They best represent the armies as they exist in time of peace—that is to say, the enlisted or peace strength. The exceptions are Russia and Switzerland where the official figures are somewhat exaggerated, especially in the case of Switzerland, whose actual uniformed force is less than half of the 200,000 men set down in the table, for it includes the militia. As to the total war strength, the numbers that could be put into the field, at once, would by no means be efficient as a working whole, with perhaps the exception of Germany, France and Great Britain. The unorganized force, represented as "available for duty," are simply untrained citizens who would be of no value in a sharp, decisive modern war.]

THE DECISIVE BATTLES OF THE WORLD AND THEIR RESULTS

By DONALD L. CLARK, A.B., DE PAUW UNIVERSITY.

Marathon (mar'a-thon), 490 B.C. The Greeks (11,000) under Miltiades defeated the Persians (100,000) under Datis and Artaphernes. The victory ended Darius's invasion of Greece.

Thermopylæ (thĕr-mop'i-li), 480 B.C. The Greeks (300 Spartans and 700 Thespians) under Leonidas were annihilated by the huge army of Xerxes. Showed the patriotic temper of the Greeks.

Salamis (sal'a-mis), 480 B.C. The Greek fleet under Themistocles and Eurybiades defeated the Persian fleet under Xerxes. Saved Greece from the second and last Persian invasion.

Syracuse (sy'ra-kūs), 413 B.C. Unsuccessfully besieged by the Athenians under Nicias and Demosthenes. This defeat marked the decline of Athenian imperialism and protected Rome from Greek conquest.

Cunaxa, 401 B.C. A battle fought at Cunaxa, 60 miles from Babylon, between the armies of King Artaxerxes Mnemon (250,000) and that of Cyrus the Younger (100,000). In the army of Cyrus were 10,000 Greek mercenaries whose valor and discipline routed the vast army of Artaxerxes. This battle taught the Greeks the inherent weakness of the Persians, and led to the later conquest of Persia by Alexander.

Arbela (ar-bē'la), 331 B.C. The Macedonians (47,000) under Alexander the Great defeated the Persians (1,000,000) under Darius III. Led to the final overthrow of the Persian Empire.

Metaurus (me-taw'rus), 207 B.C. The Romans (7,000) under Livius and Nero defeated the Carthaginians under Hasdrubal, almost annihilating them. Resulted in the overthrow of Hannibal and the aggrandizement of Rome.

Actium (ak'shi-um), 31 B.C. Octavius Augustus (200 light ships) defeated the combined fleets of Antony and Cleopatra (200 heavier ships). Resulted in the establishment of the imperial power of the Cæsars.

Teutoburgerwald (toi-to-bōōr'gĕr-vält), 9 A.D. The Germans under Hermann (Arminius) annihilated a Roman army under Varus. Checked Roman expansion in the North, and marked the beginning of the influence of the Germanic tribes.

Châlons (chä'long), 451. The Romans and Visigoths under Aëtius and Theodoric routed the Huns under Attila, with a reputed loss to the Huns of 162,000 dead. Saved Western Europe from Mongolian savagery.

Soissons (swä-song'), 486. The Merovingian Franks, under Clovis, defeated the Romans under Syagrius. Gaul lost to Rome, and Frankish power established.

Testri (tes'trē), 687. The Austrasian Franks under Pepin of Héristal defeated the Merowings of Neustria. United the kingdoms of the Franks and marked the beginnings of Carolingian power.

Tours (tōōr), 732. The Franks under Charles Martel defeated the Saracens under Abd-el-Rahman. Saved Christian Europe from Mohammedan conquest.

Ethandun (eth-an-dōōn'), 878. The West Saxons under Alfred the Great defeated the invading Danes. Resulted in the preservation of a unified English state.

Senlac (**Hastings**), Oct. 14, 1066. The Normans, under William the Conqueror, defeated the Saxons under their king, Harold, who was killed. Effected the Norman conquest of England.

Legnano (lēn-yän'o), May 29, 1176. The Lombard League defeated Fred-

erick Barbarossa, the German Emperor. Crippled German influence in Italy and preserved the integrity of the democratic Free Cities.

Bouvines (bōō-vēn′), July 27, 1214. The French (37,000) under Philip Augustus defeated the German, Flemish and English forces (46,000) under Otto IV. Marked the beginnings of France as a nation. Significant in rise of democracy, because the militia of the Free Cities showed their superiority to the German feudal levies.

Sempach (zem-päkh), July 9, 1386. The Swiss defeated the Austrians (20,000) under Duke Leopold III. Secured the independence of the Swiss Confederation.

Orléans (or-lā′ang), May 7, 1429. The siege raised by an assault of the French under Jeanne Darc on the besieging English army under the Duke of Bedford. Marked the end of English Plantagenet rule in France.

Bosworth Field, Aug. 22, 1485. The Earl of Richmond (who became Henry VII.) defeated Richard III. Ended the English Wars of the Roses and instituted the Tudor dynasty.

Lepanto (lā-pän′to), Oct. 7, 1571. Italian and Spanish fleet (200 galleys) under Don John of Austria defeated the Turks (273 lighter galleys) under Ali. Turks lost 20,000; the Christians, 8000. Shattered the naval power of the Turks and put an end to their aggression in the Eastern Mediterranean.

Spanish Armada, 1588. The English fleet (197 small ships) under Lord Howard of Effingham defeated the Armada (132 huge ships) under the Duke of Medina Sidonia at Calais and Gravelines. Over half the Spanish fleet was destroyed by storm while attempting to escape through the North Sea. Marked the failure of Philip II. to make the House of Hapsburg supreme in Europe.

Luetzen (lūtz′en), Nov. 16, 1632. The Swedes (18,000) under Gustavus Adolphus defeated the Imperialists (20,000) under Wallenstein. Preserved the integrity of the Protestant States of Central Europe.

Naseby (nāz′by), June 14, 1645. The forces of Parliament (11,000) under Fairfax and Cromwell defeated the Royalists (11,000) under Charles I. and Prince Rupert. The deciding battle of the English Civil War, resulting in the Protectorate under Cromwell.

Blenheim (blen′hīm), Aug. 13, 1704. The English and Austrians (52,000) under the Duke of Marlborough and Prince Eugene defeated the French and Bavarians (60,000) under Tallard and Marsin. Allies lost 11,000 and the French, 40,000. Humbled Louis XIV. and made possible the colonial greatness of England through the Treaty of Utrecht.

Pultowa (pool-tō′va), June 27, 1709. The Russians (70,000) under Peter the Great defeated the Swedes (25,000) under Charles XII. Marked the rise of Russia as a European power.

Rossbach (ros′bäkh), Nov. 5, 1757. The Prussians (22,000) under Frederick the Great defeated the French under Soubise, and the Imperialists under Prince of Saxe-Hildburghausen (43,000). Result is seen at Leuthen.

Leuthen (loi′ten), Dec. 5, 1757. The Prussians (30,000) under Frederick the Great defeated the Austrians (80,000) under Prince Charles. These two actions mark the rise of Prussia as the leader of the German States.

Saratoga, Oct. 6, 1777. The Americans (14,000) under Gates defeated the British (7000) under Burgoyne, and took 6000 prisoners ten days later. The decisive battle of the American Revolution.

Yorktown, Oct. 19, 1781. The Americans and French under Washington and Rochambeau and the French fleet under De Grasse forced the surrender of the British (8,000) under Cornwallis. Virtually ended the American Revolution.

Valmy (val′mē), Sept. 20, 1792. The French (36,000) under Kellermann defeated the Prussians (34,000) under the Duke of Brunswick. Loss of 180 and 700 respectively. Preserved the integrity of the newly formed French Republic.

Trafalgar (traf-al′gär; Spanish traf-al-gär′), Oct. 31, 1805. The British fleet (31 ships) under Nelson defeated the French-Spanish fleet (38

ships) under Villeneuve, Gravina and Alva. Nelson was killed. Ended the sea-power of Napoleon.

Austerlitz (ow'stĕr-litz), Dec. 2, 1805. The French (65,000) under Napoleon defeated the Austrians and Russians (82,000) under Kutusoff. Resulted in peace of Presburg.

Leipzig (līp'tsij), Oct. 16–19, 1813. The Prussians, Russians, Austrians and Swedes (300,000) under Schwarzenherd defeated the French (180,000) under Napoleon. Killed and wounded for Allies 54,000, for French 40,000. Secured liberation of Germany and the first abdication of Napoleon. Called the "Battle of the Nations."

Waterloo, June 18, 1815. The British, Dutch and Germans (67,000) under Wellington and later the Prussians (50,000) under Blücher defeated the French (72,000) under Napoleon. The end of the Napoleonic Wars and a reversion to feudalism in Europe.

Sebastopol (se-bas'to-pol; Russian pron. se-bas-tōp'ol), Sept. 8, 1854. The French and English under Pélisser took the Russian fort designed by Totleben and commanded by Gortchakoff. In the siege the Russians lost 102,670 and the Allies a larger number. Ended the Crimean War and temporarily destroyed Russia's Mediterranean power.

Monitor and Merrimac, March 9, 1862. The Federal "Monitor" under Lieut. Worden defeated the Confederate "Merrimac" under Captain Franklin Buchanan in a battle in Hampton Roads. Revolutionized naval construction by introducing armored vessels. Prevented the "Merrimac" from destroying the Federal fleet.

Gettysburg, July 1–3, 1863. Federal forces (75,000) under Meade defeated the Confederates (75,000) under Lee. Losses 23,186 and 31,621 respectively. Decisive battle of the American Civil war by ending Confederate invasions.

Sédan (sā-dang'), Sept. 1, 1870. The Germans (250,000) under William I. defeated the French (84,000) under Napoleon III. and Marshal MacMahon. Decided Franco-Prussian War. Led to the overthrow of the French Empire and the establishment of the third Republic.

Yalu (ya-lōō') **River,** Sept. 17, 1894. The Japanese fleet under Ito defeated the Chinese fleet under Ting. Four Chinese ships sunk. First battle fought with modern armored ships. Reorganization of Japan.

Santiago (san-ti-ā'go), July 3, 1898. The American fleet (11 ships) under Sampson and Schley destroyed the Spanish fleet (6 ships) under Cervera. Resulted in Spanish loss of Cuba, Porto Rico and Philippines.

Paardeberg (pawr'de-berg), Feb. 27, 1899. Large English forces under Lord Roberts defeated a smaller force of Boers under Cronje. Resulted in English annexation of Orange Free State in May and of the Transvaal in October, 1900.

Port Arthur, Jan. 1, 1905. The Japanese land forces under Nogi and fleet under Togo captured the fort commanded by Stoessel after a 148-days' siege. Russian losses, 28,200; Japanese, 57,780. Resulted in the elevation of Japan to the position of a world-power and the establishment of parliamentary forms in the Russian Duma.

DEBTS OF THE WORLD

Countries.	Revenues and Expenditures.			Debt.			
	Year.	Revenue.	Expenditures.	Year.	Total.	Interest Per Cent.	Interest and other Annual Charges.
Argentina	1910	$112,757,914	$113,465,553	1909	$545,712,120	4 –7	$29,594,251
Australasia:							
Australia, Commonwealth of	1907–8	29,988,001	29,988,001	....	.....	.....	.....
Australia, States	1907–8	169,683,399	156,156,447	1908	1,184,192,157	3 –4	46,883,988
New Zealand	1909–9	44,330,608	43,260,095	1909	346,439,001	3 –4	10,645,075
Austria-Hungary	1909	84,897,702	86,556,212	1909	1,063,725,105	3 –5	60,467,407
Austria	1909	488,143,439	488,530,572	1909	960,997,758	3 –5	35,322,309
Hungary	1909	315,822,929	315,813,171	1908	1,146,500,658	3 –5	37,136,118
Belgium	1909	119,505,782	122,121,324	1909	663,325,145	2½–3	27,022,168
Congo	1910	7,670,844	9,694,977	1908	20,089,409	....	1,260,306
Bolivia	1908	4,513,981	4,131,322	1908	2,853,496	6	215,873
Brazil	1910	154,994,252	150,253,657	1909	657,097,561	4 –5	32,390,824
Bulgaria	1909	29,561,704	29,547,738	1909	93,500,973	4½–6	6,367,018
Canada	1909	85,093,404	84,064,232	1909	323,930,279	2⅞ -4	11,931,537
Central America:							
Costa Rica	1910	3,827,648	3,467,069	1909	19,683,924	....	295,113
Guatemala	1908	2,800,197	3,369,731	1908	19,085,801	4 –8	1,700,865
Honduras	1907–8	1,583,111	1,707,634	1908–9	110,982,932	5–10	237,591
Nicaragua	1907	510,952	514,326	1907	6,083,125	6	364,988
Salvador	1908	5,107,310	4,884,397	1908	12,035,397	2 –6	1,812,655
Chile	1907	76,125,081	77,297,796	1908	167,069,373	4½–6	6,652,997
China	1908	21,221,722	21,221,722	1908	601,916,605	4 –7	92,375,017
Colombia	1908	16,138,044	17,223,818	1909	22,865,640	3 –6	1,980,559
Cuba	1909	40,707,636	39,207,790	1909	48,296,585	5 –6	2,786,795
Denmark	1908–9	25,020,261	27,815,840	1908–9	68,057,034	3 –4	2,753,263
Ecuador	1908	6,204,131	6,206,604	1909	21,010,345	4 –7	534,339
Egypt	1908	76,724,134	71,219,456	1909	463,854,243	3 –4	17,904,885
France	1909	852,399,350	852,748,626	1909	5,898,675,451	2½–3	186,802,380
Algeria	1909	24,534,178	24,524,803	1908	10,365,065	3½	385,990
Tunis	1909	17,741,578	17,740,203	....	.....	....	2,262,931
French Indo-China	1907	23,205,737	23,205,737	1907	75,763,417	3 –4	2,728,016
French Colonies	1907	25,110,698	25,110,698	1907	39,782,051	3 –5⅝	1,631,789
German Empire	'09–10	678,303,308	678,303,308	1908	1,004,790,575	3 –4	46,836,044
States	1908–9	1,203,396,320	1,235,423,109	1908	3,175,698,141	3 –4	132,942,135
Colonies	1908–9	1,414,900	12,935,301	....	.....	.....	.....
Greece	1910	27,781,064	27,209,709	1909	157,877,067	2½–5	5,940,324
Haiti	1908–9	3,825,948	3,627,383	1909	26,468,849	2½–6	1,906,715
India (British)	1909	356,953,395	356,953,395	1909	1,346,997,187	2½–4½	41,681,212
Italy	1908–9	452,668,984	441,865,700	1909	2,602,299,757	3 –5	96,941,138
Japan	'09–10	258,426,783	258,422,713	1910	1,287,604,261	4 –5	76,283,536
Formosa	'09–10	14,915,822	14,915,822	....	.....	....	.....
Korea	'09–10	10,674,492	11,089,790	1909	18,297,238	6 –7	.....
Liberia	1908–9	355,209	355,209	1910	1,289,571	6 –7	.....
Luxemburg	1909	3,439,186	3,539,932	1909	2,316,000	3½	95,178
Mexico	1908–9	49,190,204	46,297,762	1909	219,899,231	3 –5	13,058,516
Morocco	....	.....	.....	1909	39,758,000	....	.....
Netherlands	1908	73,583,688	78,002,874	1910	451,309,203	2½–3	14,606,371
Dutch East Indies	1909	72,979,127	77,963,314	....	.....	....	.....
Dutch possessions in America	1909	1,885,388	2,334,416	....	.....	.....	.....
Norway	1909	38,749,682	36,839,071	1909	88,253,614	3 –3½	5,338,702
Paraguay	1908	2,237,337	2,664,404	1910	5,027,141	....	.....
Persia	1907–8	7,174,400	7,174,400	1907–8	16,737,500	5	.....
Peru	'09–10	14,969,266	15,572,756	1909	24,911,789	6 –7½	.....
Portugal	'09–10	66,699,631	71,845,462	1909	864,561,212	3 –4½	29,907,983
Portuguese Colonies	1907–8	11,491,134	12,178,508	....	.....	.....	.....
Roumania	1908–9	90,509,232	80,562,470	1910	277,383,133	3½–7½	16,395,744
Russia	1908	1,348,613,945	1,368,191,645	1909	4,558,152,565	3 –6	204,766,421
Finland	1908	30,977,858	32,422,803	1909	29,352,124	3 –3½	1,206,558
Santo Domingo	'09–10	4,024,230	4,024,230	1910	13,486,370	5	1,200,000
Servia	1909	20,003,312	19,941,464	1910	103,573,257	4 –5	5,208,088
Siam	1908–9	21,466,180	24,147,206	1909	19,466,000	4½	.....
Spain	1909	205,655,000	216,452,000	1910	1,817,674,327	4 –5	78,709,000
Sweden	1908	55,414,147	57,986,367	1909	138,120,699	3½–4	5,520,096
Switzerland	1908	28,446,489	29,119,721	1909	257,400,446	3 –4	10,272,786
Turkey	'09–10	133,777,433	157,745,305	1909	527,983,636	3½–4	36,494,753
United Kingdom	1908–9	737,655,773	741,130,140	1909	3,669,931,350	2½–2¾	152,759,411
British Colonies	1908–9	144,083,327	153,535,048	1908–9	699,398,319	2½–6	29,049,837
United States	1909	883,507,121	1,002,303,040	1909	1,023,861,531	2 –4	21,803,836
Philippine Islands	1909	11,369,734	11,733,601	1909	16,000,000	4	1,705,561
Uruguay	1908–9	23,669,648	21,791,891	1909	134,582,430	3½–5	7,952,931
Venezuela	1907–8	9,805,009	9,529,414	1909	38,716,303	3 –6	2,756,040
Total	....	$9,969,519,433	$10,177,280,993	....	39,343,079,476	....	.....

A NOTE ON THE WORLD'S LIBRARIES

By THEODORE W. KOCH, Ph. D.

Librarian of the University of Michigan and Late Bibliographer to Cornell University.

According to Strabo, who is not to be taken literally, Aristotle was the first one to collect a library; and the taste for collecting exhibited by the later sovereigns was traceable to his example. The library at Alexandria was the culmination of this desire to amass in one place the literature of the world, Greece and Asia having been ransacked for manuscripts of all kinds. The first libraries at Rome were brought there as the plunder of war. The library formed by Augustus attached to the Temple of Apollo on the Palatine hill, contained a rich collection of Latin and Greek works, but was destroyed by fire in the reign of Commodus. The famous Imperial Library known as the Ulpian Library, originally established in the Forum of Trojan, was afterwards housed in the baths of Diocletian.

With the change of the seat of empire to Constantinople, came the introduction of Christian literature into the Imperial Library. At the death of Constantine his new library contained only 6900 volumes, but it was largely augmented by his successors. The removal of the capital to Byzantium reacted on the libraries of the Empire, and there was a growing hostility in the Church to the study of pagan writers. In the Middle Ages the libraries were in the hands of the monastic orders. Through their scribes the ancient writings were preserved and to some of the monastic rules and practices is to be traced the origin of modern library economy. Witn the Renaissance and the enthusiasm for collecting Greek and Latin manuscripts, and the coincidental invention of printing, came the greatest impetus to the formation of libraries and the spread of learning.

The first of the great modern collections were due to the activity and intelligent zeal of individuals like Cosimo de' Medici, who began collecting books while living as an exile in Venice in 1433 and upon his return to Florence founded the Medicean library. The foundations of the library at Durham College, Oxford, were laid by Richard de Bury, the author of *Philobiblon*, a century before Duke Humphrey presented his books to Oxford University. It was the sight of the neglect into which Duke Humphrey's collection had fallen that moved Sir Thomas Bodley to found the Bodleian library. The British Museum is the outgrowth of a movement to secure for the nation the collections made by Sir Hans Sloane, and the manuscripts gathered by Robert Harley, first earl of Oxford. To these were added the collection of manuscripts made by Sir Robert Cotton. To the initiative and far-sighted policy of Sir Anthony Panizzi (head librarian, 1856-66) is due much of the lead which the British Museum has over many other national libraries. The library now contains over 2,000,000 printed books and 56,000 manuscripts. Pamphlets are not included in this count, although it is cus-

tomary in many of the continental libraries to enumerate them as single items in the total number of volumes. The collection is among the best rounded out in the world. It is not only surprisingly complete in English publications, but it is strong in all continental literature, including Slavonic. Oriental languages are well represented. The section devoted to Americana is particularly rich. The Bodleian Library at Oxford was opened in 1602, and is one of the five recipients of the benefits of the copyright acts (contains 800,000 vols., 41,000 mss.). Another beneficiary is the Cambridge University Library, founded in the beginning of the fifteenth century, and now containing half a million volumes. The establishment of municipal libraries in England was authorized by an act of Parliament passed in 1850, which in 1853 was modified to cover Scotland and Ireland. The law is permissive rather than compulsory, and somewhat over 600 communities have availed themselves of the privileges of this legislation. The development of public libraries in Great Britain during the past twenty-five years has been very rapid. Not only have they increased in number, but the older ones have been classified and catalogued along modern lines, liberal ideas concerning their use by the public have been introduced, free access being allowed to large portions of many libraries and every encouragement given to use the books.

In the United States is seen the greatest development of the modern library movement. The oldest library in the country is that of Harvard University (1638) now numbering over 800,000 volumes. The largest American library is that maintained by the Federal government, the library of Congress, which contains 1,800,000 volumes. It is active in many ways, publishing reference lists of value to all librarians and printing catalogue cards not only for new copyright books but also for its large stock of older literature and for foreign publications. No device of recent years has had a greater influence on the technique of library work than these printed cards. The proprietary or subscription library was the forerunner of the public library in America, for the first of these was founded by Benjamin Franklin in 1731. A later generation conceived the idea of abolishing all fees, making the library entirely free, without any subscription from the patron. In Peterboro, New Hampshire, there was founded in 1833 the first free library supported by public taxation. While at first there were certain doubts in some quarters as to providing free books at public expense, the general trend of sentiment has been in favor of a tax supported free libraries, maintained by the people in the same way as are the public schools. The vast donations of Andrew Carnegie have done much to further the spread of libraries, especially in the newer parts of the country. The establishment of branch libraries in the larger cities has been one of the striking features of the last decade.

THE WORLD'S LIBRARIES

The following tables will be useful in showing the chief libraries of the United States and Europe, only those containing more than 200,000 books being enumerated:

The Greatest Libraries of the United States.

LIBRARY.	City	State	No. of Vols.
The Congressional Library	Washington	D. C.	1,800,000
The Boston Public Library	Boston	Mass.	900,000
New York Public Library	New York	New York	900,000
Harvard University Library	Cambridge	Mass.	800,000
The New York State Library	Albany	New York	520,000
The Yale University Library	New Haven	Conn.	400,000
Chicago University Library	Chicago	Illinois	440,000
Columbia University Library	New York	New York	360,000
The Chicago Public Library	Chicago	Illinois	350,000
The Brooklyn Public Library	Brooklyn	New York	340,000
The Newberry Library	Chicago	Illinois	275,000
Cornell University Library	Ithaca	New York	275,000
The Philadelphia Free Library	Philadelphia	Penna.	260,000
The Library Company	Philadelphia	Penna.	250,000
The Mercantile Library	New York	New York	250,000
The Princeton University Library	Princeton	N. J.	250,000
The Sutro Library	San Francisco	Calif.	245,000
The Public Library	Cincinnati	Ohio	230,000
The University of Pennsylvania Library	Philadelphia	Penna.	220,000
The Boston Athenæum	Boston	Mass.	220,000

THE GREATEST LIBRARIES IN EUROPE.

LIBRARIES	City	Country	No. of Vols.
Bibliothèque nationale	Paris	France	2,600,000
British Museum	London	England	2,000,000
Imper. publicnaja biblioteka	St. Petersburg	Russia	1,330,000
Königliche bibliothek	Berlin	Prussia	1,200,000
Kön. Hof-u. Staatsbibliothek	Munich	Bavaria	1,000,000
K. u. k. Hofbibliothek	Vienna	Austria	900,000
Universitäts-u. landes-bibliothek	Strassburg	Alsace	814,000
Publičnyj i Rumjancovskij musej	Moscow	Russia	800,000
Bodleian Library	Oxford	England	600,000
Biblioteca nacional	Madrid	Spain	600,000
K. k. Universitäts Bibliothek	Vienna	Austria	596,525
Det store kongelige bibliothek	Copenhagen	Denmark	550,000
Cambridge University Library	Cambridge	England	550,000
Universitäts-bibliothek	Gottingen	Prussia	506,812
Kön. bibliotheek	The Hague	Netherlands	500,000
Universiteit bibliotheek	Amsterdam	Netherlands	500,000
Universitäts bibliothek	Leipzig	Saxony	500,000
Bibliothèque royale	Brussels	Belgium	500,000
Reg. biblioteca nazionale centrale	Florence	Italy	488,207
Advocates' Library	Edinburgh	Scotland	485,000
Bibliothèque de l'Université	Paris	France	475,590
Magyar nemzeti muzeum	Budapest	Hungary	467,000
Grossherzogliche Hof-Bibliothek	Darmstadt	Hesse	460,000
Königliche öffentliche bibliothek	Dresden	Saxony	460,000
Bibliothèque de l'Arsenal	Paris	France	454,000
Imperatorskij Varsavskij universitet	Warsaw	Russia	453,728
Kön. Bayerische Ludwig-Maximilians-Universitäts-Bibliothek	Munich	Bavaria	450,000
Biblioteca nazionale Marciana	Venice	Italy	405,098
Grossherz. Ruprecht-Karls-universitäts-bibliothek	Heidelberg	Baden	400,000
Imperatorskaja akademija naük	St. Petersburg	Russia	400,000
Kongl. biblioteket	Stockholm	Sweden	395,000
Kön. Eberhard-Karls-Universitäts-Bibliothek	Tubingen	Wurttemberg	390,000
R. biblioteca nazionale	Naples	Italy	374,755
Kongelige Frederiks universitet biblioteket	Christiania	Norway	372,000

LIBRARIES	CITY	COUNTRY	NO. OF VOLS.
Bibliothèque de l'Université de l'État de Grand	Ghent	Belgium	357,254
Kön. Julius-Maximilians-universitäts-bibliothek	Wurzburg	Bavaria	350,000
Universytet Jagiellonski w Krakowie	Crakow	Galica	344,715
Biblioteca nazionale centrale Vittorio Emanuele	Rome	Italy	337,632
Stadtbibliothek	Hamburg	Germany	335,000
Kön. landesbibliothek	Stuttgart	Wurttemberg	326,131
Kön öffentliche bibliothek	Bamberg	Bavaria	323,958
Landes-Universitäts-Bibliothek	Rostock	Mecklenburg	318,000
Imperatorskij S. Peterburhskij universitet	St. Petersburg	Russia	306,727
Kön. Universitäts-Bibliothek	Breslau	Prussia	305,000
Herzogliche Bibliothek	Wulfenbuttel	Brunswick	300,000
Bibliothèque Mazarin	Paris	France	300,000
Kongelige universitetet	Upsala	Sweden	300,000
Kjbenhavns universitet	Copenhagen	Denmark	300,000
R. biblioteca Palatina	Parma	Italy	299,404
Public Free Libraries	Manchester	England	292,167
Rheinische Freidrich-Wilhelms-Universitäts-Bibliothek	Bonn	Prussia	287,500
K. k. Karl-Ferdinand-Universitäts-Bibliothek	Prague	Bohemia	278,623
Stadtbibliothek	Frankfort	Prussia	277,687
Birmingham Free Libraries	Birmingham	England	272,166
Imperatorskij Moskovskij universitet	Moscow	Russia	271,926
Grossherz. Bad. Albert-Ludwigs-Universitäts-Bibliothek	Freiburgi. Br.	Baden	270,000
Trinity College Library	Dublin	Ireland	257,317
Regia universita degli studi	Bologna	Italy	255,000
Kon. Albertus-universitäts-bibliothek	Konigsberg	Prussia	250,395
Biblioteca apostolica Vaticana	Rome	Italy	250,000
Gorny institut	St. Petersburg	Russia	250,000
Bibliothèque cantonale	Lausanne	Switzerland	250,000
Biblioteca nazionale	Turin	Italy	250,000
Rijks-universiteit	Utrecht	Netherlands	250,000
Kon. Christian-Albrechts-universitäts-bibliothek	Kiel	Prussia	246,310
Grossherzogliche Bibliothek	Weimar	Saxe-Weimar	240,000
Budapesti kiralyi magyar Tudomany-Egyetem (University)	Budapest	Hungary	236,881
Imperatorskij Novorossijskij universitct	Odessa	Russia	232,000
Oeffentliche bibliothek	Basel	Switzerland	230,000
Biblioteca nazionale Braidense	Milan	Italy	228,648
Vereinigte Friedrichs-universität-Halle-Wittenberg	Halle	Prussia	228,000
London Library	London	England	220,000
Grossherzogliche Regierungsbibliothek	Schwerin	Mecklenburg	220,000
Public Library	Liverpool	England	217,630
Biblioteca communale	Palermo	Italy	216,000
Kön. Friedrich-Alexanders-Universitäts-Bibliothek	Erlangen	Bavaria	213,800
Central Public Free Library	Leeds	England	212,396
Ἐθνικὴ βιβλιοθηκὴ τῆς Ἑλλάδος	Athens	Greece	212,000
Imperatorskij Kazanskij universitet	Kasan	Russia	211,196
University Library	Edinburgh	Scotland	210,000
University Library	Glasgow	Scotland	210,000
Bibliotheca nacional	Lisbon	Portugal	209,415
Imperatorskij Jurjevskij universitet	Dorpat	Russia	209,091
Biblioteca governativa	Lucca	Italy	207,794
Biblioteca communale	Fermo	Italy	206,150
Universidad central de España	Madrid	Spain	206,134
Grossherzoglich-und herzoglich sachsische Gesamt-universitäts-bibliothek	Jena	Saxe-Weimar	200,000
Staats-, Kreis-und stadt-bibliothek	Augsburg	Bavaria	200,000
Museum kralovstvi ceskeho	Prague	Bohemia	200,000
Bibliothèque publique	Bordeaux	France	200,000
Kön. und Provinzial-Bibliothek	Hanover	Prussia	200,000
Stadtbibliothek	Mainz	Hesse	200,000
Bibliothèque Sainte-Geneviève	Paris	France	200,000
Publicnaja biblioteka i sostojascij pri nej muzej	Vilna	Russia	200,000
Staats Bibliothek	Aarhuus	Denmark	200,000

In addition to these great fortresses of learning, one should mention the National Library at Rio de Janeiro in Brazil, containing some 300,000 volumes; and the Japanese University Library of Tokio which has nearly 400,000 books and manuscripts. It surpasses even the Imperial Library at Tokio, which contains 250,000 books.

CHRISTIAN NAMES OF MEN AND WOMEN

Collected and Arranged

By DONALD L. CLARK, A.B.,

De Pauw University.

A.-S. ..... Anglo-Saxon
Ar. ..... Arabic
Celt. ..... Celtic
D. ..... Danish
Eng. ..... English
Fr. ..... French
Ger. ..... German
Gr. ..... Greek
Heb. ..... Hebrew
Ital. ..... Italian
Lat. ..... Latin
O. G. ..... Old German
O. H. G. ..... Old High German
Per. ..... Persian
Russ. ..... Russian
Syr. ..... Syrian
Teut. ..... Teutonic

NAMES OF MEN

A

Aaron. [Heb.] Mountaineer or enlightener.
Abel. [Heb.] Breath; fickleness; vanity.
Abiel. [Heb.] Father of strength.
Abihu. [Heb.] God is father.
Abijah. [Heb.] To whom Jehovah is a father.—Dim. Bije.
Abner. [Heb.] Father of light.
Abraham. [Heb.] Father of a multitude.—Dim. Abe.
Abram. [Heb.] Father of elevation.—Dim. Abe.
Adalbert. See **Ethelbert.**
Adam. [Heb.] Man; earth-man; red earth.—Dim. Ad.
Adolph, } [O. H. G.] Noble wolf;
Adolphus. } i. e., noble hero.—Dim. Dolph.
Adoniram. [Heb.] Lord of height.
Alan. Variously explained as a hound [Slav.], harmony [Celt.], and a corruption of Hilary, or of Ælianus.
Alaric. [O. H. G.] All-rich; or, noble ruler.
Albert. [O. H. G.] All bright; illustrious.—Dim. Bert, Bertie.
Albion. [Celt.] White-cliffed land; the ancient name of England.
Alexander. [Gr.] A helper of men.—Dim. Aleck, Ellick, Sandy, Sawney.
Alexis. [Gr.] Help; defence.
Alfred. [O. H. G.] Elf in council; i. e., good counselor.—Dim. Alf.
Alfonso. See **Alphonso.**
Algernon. [Fr.] Whiskered.
Alonzo. [O. G.] The same as **Alphonso,** q. v.
Alpheus. [Heb.] Exchange.
Alphonso. [O. H. G.] All-ready willing.
Alvah, } [Heb.] Iniquity.
Alvan. }
Alvin, } [O. H. G.] Winning all.
Alwin. }
Amadeus. [Lat.] Lover of God.
Amariah. [Heb.] Whom Jehovah promised.
Amasa. [Heb.] A burden.
Ambrose. [Gr.] Immortal; divine.
Amos. [Heb.] Strong; courageous otherwise, burden.
Anastasius. [Gr.] Rising up.
Andrew. [Gr.] Strong; manly; courageous.—Dim. Andy.
Anselm. [O. H. G.] Protection of God.
Anthony, } [Lat.] Priceless; praise
Antony. } worthy.—Dim. Tony
Archibald. [Ger.] Extremely bold otherwise, holy prince.—Dim. Archie.
Armand. See **Hermann.**
Artemas. [Gr.] Gift of Artemis, or Diana.
Arthur. [Celt.] High; noble.—Dim. Art.
Asa. [Heb.] Healer; physician.
Asahel. [Heb.] Made of God.
Asaph. [Heb.] A collector.
Asher. [Heb.] Happy; fortunate.
Ashur. [Heb.] Black; blackness.

Arnold. [O. H. G.] Strong as an eagle.
Athelstan. [A.-S.] Noble stone.
Aubrey. [O. H. G.] Ruler of spirits.
Augustin, Augustine, Austin. [Lat.] Belonging to Augustus.
Augustus. [Lat.] Exalted; imperial.—Dim. Gus.
Aurelius. [Lat.] Golden.
Azariah. [Heb.] Helped of the Lord.

B

Baldwin. [O. H. G.] Bold, winner.
Baptist. [Gr.] A baptizer; purifier.
Barabbas, Barnaby. Son of consolation and exhortation.
Bartholomew. [Heb.] A warlike son.—Dim. Bat, Bart.
Barzillai. [Heb.] Iron of the Lord; firm; true.
Basil. [Gr.] Kingly; royal.
Benedict. [Lat.] Blessed.
Benjamin. [Heb.] Son of the right hand.—Dim. Ben.
Beriah. [Heb.] In calamity.
Bernard, Barnard. [O. H. G.] Strong or hardy bear.
Bertram. [O. H. G.] Bright; fair; illustrious.—Dim. Bert, Bertie.
Bezaleel. [Heb.] In the shadow (protection) of God.
Blaise. [Fr.] Sprouting forth.
Boniface. [Lat.] A benefactor.
Brian. [Celt.] Strong.
Bruno. [O. H. G.] Brown.

C

Cadwallader. [Celt.] Battle-arranger.
Cæsar. [Lat.] Hairy; or blue-eyed; or, born under the Cæsarian operation.
Caleb. [Heb.] A dog.—Dim. Cale.
Calvin. [Lat.] Bald.
Casper. See **Jasper.**
Cecil. [Lat.] Dim-sighted.
Cephas. [Aramaic.] A stone.
Charles. [O. H. G.] Strong; manly; noble-spirited.—Dim. Charlie, or Charley.
Christian. [Lat.] Belonging to Christ; a believer in Christ.—Dim. Christie.
Christopher. [Gr.] Bearing Christ.—Dim. Kester, Kit, Chris., Christie.
Clarence. [Lat.] Illustrious.—Dim. Clarry, Clara.
Claudius, Claude. [Lat.] Lame.
Clement. [Lat.] Mild-tempered; merciful.—Dim. Clem.
Conrad. [O. H. G.] Able counsel.
Constant. [Lat.] Firm; faithful.
Constantine. [Lat.] Resolute; firm.
Cornelius. [Lat.] (Uncertain).—Dim. Corny.
Crispin, Crispus. [Lat.] Having curly hair.
Cuthbert. [A.-S.] Noted splendor.
Cyprian. [Gr.] Of Cyprus.
Cyril. [Gr.] Lordly.
Cyrus. [Per.] The sun.—Dim. Cy.

D

Daniel. [Heb.] A divine judge.—Dim. Dan.
Darius. [Per.] Preserver.
David. [Heb.] Beloved.—Dim. Davy, Dave.
Demetrius. [Gr.] Belonging to Ceres (Demeter); sprung from the earth.
Dénis, Dennis. [Gr.] Same as **Dionysius.** [Fr. form.]
Derrik, Diedrik, Dietrich. [O. H. G.] See **Theoderick.**
Dexter. [Lat.] The right hand, fortunate.
Dionysius. [Gr.] Belonging to Dionysus or Bacchus, the god of wine.
Donald. [Celt.] Proud chief.—Dim. Don.
Duncan. [Celt.] Brown chief.—Dim. Dunc.

E

Eben. [Heb.] A stone.—Dim. Eb.
Ebenezer. [Heb.] The stone of help.
Edgar. [A.-S.] Giver of happiness.
Edmund. [A.-S.] Defender of happiness.—Dim. Ed, Ned (a contraction of "mine Ed").
Edward. [A.-S.] Guardian of happiness.—Dim. Ed, Eddy, Ned, Neddy, Teddy.
Edwin. [A.-S.] Gainer of happiness.—Dim. Ed, Eddy.
Egbert. [O. H. G.] The sword's brightness; famous with the sword.—Dim. Bert.
Elbert. [O. H. G.] See **Albert.**

Eldred. [A.-S.] Terrible.
Eleazer. [Heb.] To whom God is a help.
Elfonzo. See **Alphonso.**
Eli. [Heb.] A foster son.
Elias. [Heb.] See **Elijah.**
Elihu. [Heb.] God the Lord.
Elijah. [Heb.] Jehovah is my God. —Dim. 'Lije.
Eliphalet. [Heb.] God of salvation. —Dim. 'Liph.
Elisha. [Heb.] God my salvation.
Elizur. [Heb.] God is my rock.
Ellis. [Heb.] A variation of **Elisha.**
Elmer. [A.-S.] Noble; excellent. [A contraction of **Ethelmer.**]
Elnathan. [Heb.] God gave.
Emmanuel. [Heb.] God with us.
Emery, **Emmery,** **Emory.** [A.-S.] Powerful; rich.
Enoch. [Heb.] Consecrated; dedicated.
Enos. [Heb.] Man.
Ephraim. [Heb.] Very fruitful.—Dim. Eph (ēf).
Erasmus. [Gr.] Lovely; worthy to be loved.
Erastus. [Gr.] Beloved; amiable. —Dim. 'Ras.
Eric. [A.-S.] Rich; brave; powerful.
Ernest. [Ger.] Earnest.
Ethan. [Heb.] Firmness; strength
Ethelbert. [A.-S.] Nobly bright.—Dim. Bert.
Eugene. [Ger.] Wellborn; noble.—Dim. 'Gene (jēn).
Eustace. [Gr.] Healthy; strong; standing firm.
Evan. [Celt.] Young warrior.
Ezekiel. [Heb.] Strength of God. —Dim. Zeke.
Ezra. [Heb.] Help.—Dim. Ez.

F

Felix. [Lat.] Happy.
Ferdinand. [O. H. G.] Brave; valiant.—Dim. Ferd.
Fernando. [O. H. G.] Same as **Ferdinand.**
Francis. [O. H. G.] Free.—Dim. Frank.
Frederic, **Frederick.** [O. H. G.] Abounding in peace; or peaceful ruler.—Dim. Fred, Freddy.

G

Gabriel. [Heb.] Strength or man of god.—Dim. Gabe.
Gamaliel. [Heb.] Recompense of God.
Garret. [O. H. G.] See **Gerald,** or **Gerard.**
Geoffrey. [O. H. G.] See **Godfrey.**
George. [Ger.] A landholder; husbandman.—Dim. Georgie, Geordie.
Gerald, **Gerard.** [O. H. G.] Strong with the spear. Jerry.
Gershom. [Heb.] An exile.
Gideon. [Heb.] A destroyer.
Gilbert. [O. H. G.] Yellow-bright; famous.—Dim. Bert.
Giles. [Gr.] A kid.
Given. [Eng.] Gift of God.
Godard. [O. G.] Pious; virtuous.
Godfrey. [O. H. G.] At peace with God.
Godwin. [A.-S.] Good fighter.
Gregory. [Ger.] Watchful; vigilant —Dim. Greg.
Griffith. [Celt.] Having great faith.
Gustavus. [Sw.] A warrior; hero.
Guy. [O. H. G.] A leader.

H

Hannibal. [Punic.] Grace of Baal.
Harold. [A.-S.] A champion; general of an army.—Dim. Harry.
Heman. [Heb.] Faithful.
Henry. [O. H. G.] The head or chief of a house.—Dim. Hal, Harry (by assimilation of consonant sound) Hen, Hank.
Herbert. [A.-S.] Glory of the army —Dim. Bert, Bertie.
Herma. [O. H. G.] A warrior.
Hezekiah. [Heb.] Strength of the Lord.—Dim. Hez.
Hilary. [Lat.] Cheerful; merry.
Hiram. [Heb.] Most noble.—Dim. Hi.
Horace. [Lat.] See **Horatio.**
Horatio. [Lat.] (Uncertain).—Dim. Harry.
Hosea. [Heb.] Salvation.
Howell. [Celt.] Sound; whole.
Hubert. [O. H. G.] Bright in spirit; soul-bright.—Dim. Bert.
Hugh, **Hugo,** [D.] Mind; spirit; soul.
Humphrey. [A.-S.] Protector of the home.—Dim. Hump, Humph.

I

Ichabod. [Heb.] The glory has departed
Ignatius. [Gr.] Ardent; fiery.
Immanuel. [Heb.] See **Emmanuel.**
Ingram. [Teut.] Raven.

Inigo. [Gr.] **Ignatius.** [Sp. form.]
Ira. [Heb.] Watchful.
Isaac. [Heb.] Laughter.—Dim. Ike, Ikey.
Isaiah. [Heb.] Salvation of the Lord.
Israel. [Heb.] A soldier of God.—Dim. Izzy.
Ivan. [Russ.] See **John.**

J

Jabez. [Heb.] He will cause pain.
Jacob. [Heb.] A supplanter.—Dim. Jake.
Jairus. [Heb.] He will enlighten.
James. [Heb.] See **Jacob.**—Dim. Jeames, Jem, Jim, Jemmy, Jimmy.
Japheth. [Heb.] Enlargement.
Jared. [Heb.] Descent.
Jason. [Gr.] A healer.
Jasper. [Per.] (Uncertain).
Jedediah. [Heb.] Beloved of the Lord.—Dim. Jed.
Jeffrey. [O. H. G.] See **Godfrey.**—Dim. Jeff, Geoff.
Jeremiah, Jeremias, Jeremy. [Heb.] Exalted of the Lord.
Jerome. Holy Name.—Dim. Jerry.
Jesse. [Heb.] Wealth.
Joab. [Heb.] Jehovah is his father.
Job. [Heb.] Afflicted; persecuted.
Joel. [Heb.] The Lord is God.
John. [Heb.] The gracious gift of God.—Dim. Johnny, Jack, Jock.
Jonah, Jonas. [Heb.] A dove.
Jonathan. [Heb.] Gift of Jehovah.
Joseph. [Heb.] He shall add.—Dim. Joe.
Joshua. [Heb.] God of salvation.—Dim. Josh.
Josiah, Josias. [Heb.] Given of the Lord.
Jotham. [Heb.] The Lord is upright.
Judah, Jude. [Heb.] Confession.
Julian. [Lat.] Sprung from, or belonging to, Julius.—Dim. Jule.
Julius. [Gr.] Soft-haired. — Dim. Jule.
Justin, Justus. [Lat.] Just.

K

Kenelm. [A.-S.] A defender of his kindred.
Kenneth. [Celt.] A leader; commander.

L

Laban. [Heb.] White.
Lambert. [O. H. G.] Illustrious with landed possessions.
Lancelot. [Fr.] A little lance or warrior; or a servant.
Laurence, Lawrence. [Lat. Crowned with laurel. — Dim. Larry (Lawrie, Laurie, Scot.; Larry, Irish).
Lazarus. [Heb.] Destitute of help.
Leander. [Gr.] Lion-man.
Lemuel. [Heb.] Created by God.—Dim. Lem.
Leo, Leon. [Lat.] Lion.
Leonard. [Ger.] Strong; or brave as a lion.
Leonidas. [Gr.] Lion-like.
Leopold. [O. H. G.] Bold for the people.
Levi. [Heb.] Adhesion.
Lewis. [O. H. G.] Bold warrior.—Dim. Lou or Lew.
Linus. [Gr.] Flaxen-haired.
Lionel. [Lat.] Young lion.
Llewellyn. [Celt.] Lightning.
Lorenzo. [Lat.] See **Laurence.**
Lot. [Heb.] A veil; a covering.
Louis. [O. H. G.] See **Lewis.** [Fr. form.]
Lucian, Lucien. [Lat.] Belonging to, or sprung from, Lucius.
Lucius. [Lat.] Born at break of day.
Ludovic. [O. H. G.] Also **Ludwig,** Ger. form of **Lewis.**
Luke. [Lat.] Light.
Luther. [Ger.] Illustrious warrior.

M

Madoc. [Celt.] Good; beneficent.
Malachi. [Heb.] Messenger of the Lord.
Manasseh. [Heb.] Forgetfulness.
Marcellus. [Lat.] Dim. of **Marcus.**
Marcius. [Lat.] See **Marcus.**
Marcus, Mark. [Lat.] A hammer, otherwise, a male, or sprung from Mars.
Marmaduke. [A.-S.] A mighty noble.—Dim. 'Duke.
Martin. [Lat.] Of Mars; warlike.
Matthew. [Heb.] Gift of Jehovah. —Dim. Mat.
Matthias. See **Matthew.**
Maurice. [Lat.] Moorish; dark-colored.

Maximilian. [Lat.] The greatest Æmilianus.—Dim. Max.
Micah. [Heb.] Who is like the Lord?
Michael. [Heb.] Who is like God?—Dim. Mike.
Miles. [Lat.] A soldier.
Moses. [Egypt.] Drawn out of the water.—Dim. Mose.

N

Nahum. [Heb.] Consolation.
Napoleon. [Gr.] Lion of the forest-dell.—Dim. Nap.
Nathan. [Heb.] Given; a gift.
Nathanael, **Nathaniel.** [Heb.] The gift of God.—Dim. Nat.
Neal, **Neil.** [Lat.] Dark; swarthy; other-wise [Celt.], chief.
Nehemiah. [Heb.] Comfort of the Lord.
Nicholas, **Nicolas.** [Gr.] Victory of the people.—Dim. Nick.
Nicodemus. [Heb.] Conqueror of the people.
Noah. [Heb.] Rest; comfort.
Noël. [Fr.] Christmas; born on Christmas day.
Norman. [Ger.] A Northman; a native of Normandy.

O

Obadiah. [Heb.] Servant of the Lord.
Obed. [Heb.] Serving God.
Octavius, **Octavus.** [Lat.] The eighth-born.
Oliver. [Lat.] An olive-tree.—Dim. Noll.
Orestes. [Gr.] A mountaineer.
Orlando. [Teut.] Same as **Roland.** [It. form.]
Oscar. [Celt.] Leaping warrior.
Osmund. [Teut.] Protection of God.
Oswald. [O. H. G.] Power of God.
Otho, **Otto.** [Lat.] A giant.
Owen. [Celt.] Lamb; otherwise, young warrior.

P

Patrick. [Lat.] Noble; a patrician.—Dim. Pat, Paddy.
Paul, **Paulus.** [Lat.] Little.
Peleg. [Heb.] Division.
Peregrine. [Lat.] A stranger.
Peter. [Gr.] A rock.—Dim. Pete
Philander. [Gr.] A lover of men.
Philemon. [Gr.] Loving; friendly
Philip. [Gr.] A lover of horses.—Dim. Phil, Pip.
Phineas, **Phinehas.** [Heb.] Mouth of brass
Pius. [Lat.] Pious; dutiful.
Pliny. [Lat.] (Uncertain).
Pompey. [Lat.] Showy.
Preserved. [Eng.] Redeemed.

Q

Quintin, **Quentin.** [Lat.] The fifth.

R

Ralph. [O. H. G.] See **Rodolphus**
Raphael. [Heb.] The healing o God.
Raymond. [Teut.] Wise protec tion.
Reginald. [Teut.] Strong ruler.—Dim. Reg. (rej), Reggie (rej'i).
Reuben. [Heb.] Behold, a son.
Reuel. [Heb.] Friend of God.
Reynold. [O. H. G.] Same a **Reginald.**
Richard. [O. H. G.] A strong king powerful.—Dim. Dick.
Robert. [O. H. G.] Bright in fame—Dim. Bob, Rob, Robin.
Roderic, **Roderick.** [O. H. G.] Rich in fame—Dim. Rurik.
Rodolph, **Rodolphus.** [O. H. G.] Famou wolf, or hero.
Roger. [O. H. G.] Famous with th spear.—Dim. Hodge, Hodgkin (I and r being etymologically con vertible).
Roland, **Rowland.** [Teut.] Fame of th land.
Rudolph, **Rudolphus.** [O. H. G.] Variant of **Rodolphus.**
Rufus. [Lat.] Red; red-haired.—Dim. Rufe.
Rupert. [O. H. G.] See **Robert.**
Rurik. See **Roderick.**

S

Salmon. [Heb.] Shady.
Samson, **Sampson.** [Heb.] Splendid sun i. e., great joy an felicity.

Samuel. [Heb.] Heard by God.—Dim. Sam, Sammy.
Saul. [Heb.] Asked for.
Seba. [Heb.] Eminent.
Sebastian. [Gr.] Venerable; reverend.
Sereno, **Serenus.** [Lat.] Calm; peaceful.
Seth. [Heb.] Appointed.
Sigismund. [O. H. G.] Conquering protection.—Dim. Sig.
Silas. [Lat.] A contraction of **Silvanus.**
Silvanus. [Lat.] Living in a wood.
Silvester. [Lat.] Bred in the country; rustic.
Simeon, **Simon.** [Heb.] Hearing with acceptance.—Dim. Sim.
Solomon. [Heb.] Peaceable.—Dim. Sol.
Stephen. [Gr.] A crown or garland.—Dim. Steve.
Sylvan, **Sylvanus.** See **Silvanus.**
Sylvester. See **Silvester.**

T

Thaddeus. [Syr.] The wise.—Dim. Thad.
Theobald. [Teut.] Bold for the people.—Dim. Theo.
Theodore, **Theodoric.** [Gr.] The gift of God.—Dim. Teddy.
Theophilus. [Gr.] A lover of God.
Theron. [Gr.] A hunter.
Thomas. [Heb.] A twin.—Dim. Tom, Tommy.
Timothy. [Gr.] Fearing God.—Dim. Tim.
Titus. [Gr.] (Uncertain).
Tobiah, **Tobias.** [Heb.] Distinguished of the Lord.—Dim. Toby.
Tristan, **Tristram.** [Lat.] Grave; pensive; melancholy; sorrowful; sad.

U

Ulysses. [Gr.] A hater.—Dim. 'Lyss.
Urban. [Lat.] Of the town; courteous; polished.
Uriah. [Heb.] Fire of the Lord.
Urian. [D.] A husbandman.
Uriel. [Heb.] Light of God.

V

Valentine. [Lat.] Strong; healthy; powerful.—Dim. Val.
Victor. [Lat.] A conqueror.—Dim. Vick.
Vincent. [Lat.] Conquering; victorious.
Vivian. [Lat.] Lively.

W

Walter. [O. H. G.] Wood master.—Dim. Wat, Walt.
Wilbert. [A.-S.] Wellborn.
William. [O. H. G.] Resolute helmet, or, helmet of resolution; defense; protector.—Dim. Will, Wylli, and (by interchange of convertible letters) Bill, Billy.
Winfred. [A.-S.] Peace winner.

Z

Zabdiel. [Heb.] Gift of God.
Zaccheus. [Heb.] Innocent; pure.
Zachariah, **Zachary.** [Heb.] Remembered of the Lord.—Dim. Zack.
Zebadiah, **Zebedee.** [Heb.] Gift of the Lord.
Zechariah. [Heb.] The same as **Zachariah.**
Zedekiah. [Heb.] Justice of the Lord.
Zenas. [Gr.] Gift of Jupiter.
Zephaniah. [Heb.] Hid of the Lord.—Dim. Zeph.

NAMES OF WOMEN

A

Abigail. [Heb.] My father's joy. —Dim. Abby, Abbie.
Ada. [O. H. G.] See **Edith.**
Adaline. See **Adeline.**
Adela. See Adeline.
Adelaide. See Adeline.
Adelia. A variant of **Adela.**
Adelina, **Adeline.** [Teut.] Of noble birth; a princess.—Dim. Addie.
Agatha. [Gr.] Good; kind.
Agnes. [Gr.] Chaste; pure.
Alberta. [O. H. G.] Feminine of **Albert.**
Alethea. [Gr.] Truth.
Alexandra, **Alexandrina.** [Gr.] Feminine of Alexander.
Alice, **Alicia.** [O. H. G.] Same as **Adeline.**—Dim. Ally, or Allie, Elsie.
Almira. [Ar.] Lofty; a princess.
Althea. [Gr.] A healer.
Amabel. [Lat.] Lovable.
Amanda. [Lat.] Worthy of love.
Amelia. [Teut.] Busy, energetic.—See **Emeline.**
Amy. [Fr.] Beloved.
Angelica, **Angelina.** [Gr.] Lovely; angelic.
Ann, **Anna,** **Anne.** [Heb.] Grace.—Dim. Annie, Nanny, Nancy, Nan, Nina.
Annette. [Heb.] A variant of **Anne.**
Antoinette. [Gr.] Diminutive of **Antonia.**—Dim. Toinette, Nettie.
Antonia. [Lat.] Inestimable.
Arabella. [Lat.] A fair altar; otherwise, an Arabian woman.—Dim. Bella, Bel.
Ariana. [Gr.] A corruption of **Ariadne.**
Augusta. [Lat.] Feminine of **Augustus.**—Dim. 'Gusta, Gussie.
Aurelia. [Lat.] Feminine of **Aurelius.**
Aurora. [Lat.] Morning redness; fresh; brilliant.

B

Barbara. [Gr.] Foreign; strange. —Dim. Bab.
Beatrice, **Beatrix.** [Lat.] Happy.
Belinda. (Uncertain.)
Berenice, **Bernice.** [Gr.] Bringing victory
Bertha. [Teut.] Bright; beautiful famous.—Dim. Bertie.
Beulah. [Heb.] Land of rest.
Bianca. [It.] White.
Blanch, **Blanche.** [Teut.] White.
Bridget, **Brigit.** [Celt.] Shining bright.—Dim. Biddy.

C

Camilla. [Lat.] Attendant at sacrifice.
Caroline. Feminine of **Carolus,** the Latin of Charles. [Fr. form.]—Dim. Carrie, Caddie.
Cassandra. [Gr.] She who inflames with love.
Catharina, **Catharine,** **Catherine.** [Gr.] Pure. — Dim. Cassie, Kate, Katrine, Kit, Kitty.
Catalina. See **Catherine.**
Cecilia, **Cecily.** [Lat.] Feminine of **Cecil** —Dim. Sisley, Sis, Cis
Celestine. [Lat.] Heavenly.
Celia. [Lat.] Feminine of **Cœlius**
Charlotte. [O. H. G.] Feminine of **Charles.** Dim. Lottie.
Chloë. [Gr.] A green herb; a young shoot.
Christiana, **Christina.** [Gr.] Feminine of Christian. — Dim. Chrissie, Tina.
Cicely. [Lat.] A corruption of **Cecilia.**
Clara. [Lat.] Bright; illustrious —Dim. Clare, Cad.
Claribel. [Lat.] Brightly fair.
Clarice, **Clarissa.** [Lat.] Variants of **Clara** —Dim. Clare.
Claudia. [Lat.] Feminine of **Claudius.**
Clementina, **Clementine.** [Lat.] Mild; gentle.—Dim. Tina. Fem. of **Clement.**
Constance. [Lat.] Firm; constant —Dim. Connie.
Cora. [Gr.] Maiden. See **Corinna**
Cordelia. [Lat.] Warm-hearted.
Corinna. [Gr.] Maiden.
Cornelia. [Lat.] Feminine of **Cornelius.**—Dim. Cornie, Nellie.
Cynthia. [Gr.] Belonging to Mt Cynthus.

D

Deborah. [Heb.] A bee. — Dim. Debby, Deb.
Delia. [Gr.] Of Delos.
Diana. [Lat.] Goddess.—Dim. Di, Die.
Dinah. [Heb.] Judged.
Dora. [Gr.] A contraction of **Dorothea.**
Dorcas. [Gr.] A gazelle.
Dorinda. [Gr.] See **Dorothea.**
Dorothea, } [Gr.] The gift of God.
Dorothy. } —Dim. Dora, Dol, Dolly (the r being etymologically convertible.)
Drusilla. [Lat.] With dewy eyes.

E

Edith. [A.-S.] Happiness; otherwise, rich gift.
Edna. [Heb.] Pleasure.
Eleanor, } [Gr.] Light;—the same
Elinor. } as **Helen.**—Dim. Ella, Nell, Nellie, Nora.
Elena. See **Helen.**
Elisabeth, } [Heb.] Worshipper of
Elizabeth, } God; consecrated to
Eliza. } God. — Dim. Bess, Bessey, Betsey, Betty, Lizzy, Libby, Lisa.
Ella. [Gr.] A contraction of **Eleanor.**
Ellen. [Gr.] Diminutive of **Eleanor.**
Elsa. See **Alice.**
Elvira. [Lat.] White.
Emeline, } [Teut.] Energetic; in-
Emmeline. } dustrious.
Emily. Same as **Emeline.**
Emma. Same as **Emeline.**—Dim. Em, Emmie.
Ernestine. [Ger.] Feminine dim. of **Ernest.**—Dim. Tina.
Esther. [Per.] Star; good fortune; a secret.—Dim. Tess, Tessie, Ess, Essie.
Ethel. [A.-S.] Noble; of noble birth.
Ethelind, } [A.-S.] Noble snake.
Ethelinda. }
Eudora. [Gr.] Good gift.
Eugenia. [Gr.] Feminine of **Eugene.**
Eugénie. [Gr.] Fr. form of **Eugenia.**
Eulalia. [Gr.] Fair speech.
Eunice. [Gr.] Happy victory.
Euphemia. [Gr.] Of good report. —Dim. Effie.
Eva. [Heb.] Life.
Evangeline. [Gr.] Bringing glad news.
Eve. [Heb.] The same as **Eva.**
Evelina, } [Heb.] Ital. diminutive
Eveline. } of **Eva.**

F

Faustina. [Lat.] Lucky.
Felicia, } [Lat.] Happiness.
Felice. }
Fidelia. [Lat.] Faithful.
Flora. [Lat.] Flowers. Dim. Flo, Flossie.
Florence. [Lat.] Blooming; flourishing.—Dim. Florrie, Flossie.
Frances. [Ger.] Feminine of **Francis.**—Dim. Fannie, Frank.
Frederica. [O. H. G.] Feminine of **Frederick.**—Dim. Freddie, and Frieda.

G

Georgiana, } [Gr.] Feminine of
Georgina. } **George.**—Dim. Georgie.
Geraldine. Feminine of **Gerald.**
Gertrude. [O. H. G.] Spear-maiden. —Dim. Gertie, Truda.
Grace, } [Lat.] Grace, favor.
Gratia. }
Griselda. [Teut.] Stone-heroine.—Dim. Grissel.

H

Hannah. [Heb.] See **Anna.**
Harriet, } [O. H. G.] Feminine di-
Harriot. } minutive of **Henry** [Eng. form.]—Dim. Hattie.
Helen, } [Gr.] Light.—Dim. Nell,
Helena. } Nellie, Lena.
Henrietta. [O. H. G.] Feminine diminutive of **Henry.** [Fr. form.] —Dim. Etta, Hetty.
Hephzibah. [Heb.] My delight is in her.—Dim. Hepsy.
Hester, } [Per.] Variants of **Esther.**
Hesther. }
Hilaria. [Lat.] Feminine of **Hilary.**
Honora, } [Lat.] Honorable.
Honoria. }
Hortensia. [Lat.] A lady in the garden. Also **Hortense.**
Huldah. [Heb.] A weasel.

I

Ida. [Teut.] Godlike.
Idabell. [Teut.] Godlike and fair.
Inez. [Gr.] The same as **Agnes.** [Pg. form.]
Irene. [Gr.] Peace.—Dim. Renie.
Isabel, } [Heb.] The same as **Eliz-**
Isabella. } **abeth.**—Dim. Belle, Bella.

J

Jacqueline. [Heb.] Feminine of **James.** [Fr. form.]
Jane. [Heb.] Feminine of **John.** —See **Joanna.**
Janet. [Heb.] Dim. of **Jane.**
Jean, Jeanne, Jeannette. [Heb.] The same as **Jane** or **Joan.** [Fr. forms.]
Jemima. [Heb.] A dove.
Jerusha. [Heb.] Possessed; married.
Jesse. [Heb.] Wealth.
Joan, Joanna. [Heb.] Feminine of **John.**
Josepha, Josephine. [Heb.] Feminine of **Joseph.**—Dim. Josie, Jo, Phenie.
Joyce. [Lat.] Sportive.
Judith. [Heb.] Praised.—Dim. Judy, Ju.
Julia. [Lat.] Feminine of **Julius.** —Dim. Julie.
Juliana. [Lat.] Feminine of **Julian.**
Juliette. [Lat.] Diminutive of **Julia.** [Fr. form.]
Justina. [Lat.] Feminine of **Justin.**

K

Kate. Dim. of **Catherine.**
Katharine, Katherine. [Gr.] See **Catherine.**
Keturah. [Heb.] Incense.
Keziah. [Heb.] Cassia.

L

Laura. [Lat.] A laurel (perhaps) for **Laurea.**
Lavinia. [Lat.] Of Latium.
Lena. [Gr.] Dim. of **Helen.**
Leonora. [Gr.] Same as **Eleanor.**
Letitia. [Lat.] Happiness.—Dim. Lettie, Lettice.
Lillian, Lilly. [Lat.] Lily.—Dim. Lil.
Livia. [Lat.] See **Olivia.**
Lois. [Gr.] Good; desirable.
Louisa, Louise. [O. H. G.] Feminine of **Louis.**—Dim. Louie, Lou.
Lucia. [Lat.] Ital. form of **Lucy.**
Lucinda. [Lat.] The same as **Lucy.**
Lucretia. [Lat.] Gain; otherwise, light.
Lucy. [Lat.] Feminine of **Lucius.**
Lucile. [Lat.] See **Lucy.**
Lydia. [Gr.] A native of Lydia, in Asia Minor.

M

Mabel. [Lat.] A contraction of **Amabel.**
Madeline. [Heb.] Another form of **Magdalene.**
Magdalene. [Heb.] Belonging to Magdala.—Dim. Maud, Maudlin, Lena.
Marcella. [Lat.] Feminine of **Marcellus.**
Marcia. Feminine of **Marcius.**—Dim. Marsh.
Margaret. [Gr.] A pearl.—Dim. Greta, Mag, Madge, Maggie, Margie, Marjory, Meg, Meta, Peg, Peggy (m and p being cognate letters).
Maria. [Heb.] See **Mary.**
Marianne. [Heb.] Another compound of **Mary** and **Anne.**
Marion. [Heb.] A French form of **Mary.**
Martha. [Heb.] The ruler of the house; otherwise sorrowful.—Dim. Mat, Mattie, Pat, Pattie.
Mary. [Heb.] Bitter; otherwise, their rebellion, or star of the sea.—Dim. Moll, Mollie, Polly, May.
Mathilda, Matilda. [O. H. G.] Mighty battle-maid; heroine.—Dim. Mat, Matty, Maud, Pattie (m and p being convertible).
May. A diminutive of **Mary,** or the month.
Mehetabel, Mehitable. [Heb.] Benefited of God.—Dim. Hetty.
Melicent. [Lat.] Sweet singer.—Dim. Millie.
Melissa. [Gr.] A bee.
Mildred. [Ger.] Mild speaker.—Dim. Millie.
Miranda. [Lat.] Admirable.
Miriam. [Heb.] See **Mary.**
Myra. [Gr.] She who weeps or laments.

N

Nancy. A familiar form of **Anne.** —Dim. Nan, Nance, Nina.
Nellie. Dim. of **Ellen, Helen,** or **Eleanor.**
Nora. A contraction of **Honora.**

O

Octavia. [Lat.] Feminine of **Octavius.**—Dim. Tavie

Olive, Olivia. [Lat.] An olive.—Dim. Livie.

Ophelia. [Gr.] A help; useful.

Olympia. [Gr.] Heavenly.

P

Paula. [Lat.] Feminine of **Paul.**

Paulina, Pauline. [Lat.] Dim. Paula.

Penelope. [Gr.] A weaver.—Dim. Pen.

Persis. [Gr.] A Persian woman.

Phebe. [Gr.] The same as **Phœbe.**

Philippa. [Gr.] Feminine of **Philip.**

Phœbe. [Gr.] Pure; radiant.—Dim. Phebe.

Phyllis. [Gr.] A green bough.

Polly. [Eng.] Dim. of **Mary.**

Priscilla. [Lat.] Somewhat old; ancient.—Dim. Prissie.

R

Rachel. [Heb.] A ewe; a lamb.

Rebecca, Rebekah. [Heb.] Of enchanting beauty.—Dim. Beckie.

Rhoda. [Gr.] A rose.

Rosa. [Lat.] A rose.—Dim. Rosie.

Rosabel, Rosabella. [Lat.] A fair rose.

Rosalia, Rosalie. [Lat.] Little and blooming rose. Deriv. of **Rosa.** [Fr. and It. forms.]

Rosalind. [Lat.] Beautiful as a rose.—Dim. Rose, Linda.

Rosamond. [Teut.] Horse-protection, or famous protection.

Roxana. [Per.] Dawn of day.

Ruth. [Heb.] Beauty.

S

Sabina. [Lat.] A Sabine woman.

Salome. [Heb.] Peaceful.

Sara, Sarah. [Heb.] A princess.—Dim. Sadie, Sal, Sally.

Selina. [Gr.] Parsley, or moon.—Dim. Lina.

Serena. [Lat.] Feminine of **Serenus** or **Sereno.**

Sibyl, Sibylla. [Gr.] A prophetess.

Silvia. See **Sylvia.**

Sophia. [Gr.] Wisdom.—Dim. Sophie, Soph.

Sophronia. [Gr.] Of a sound mind.

Stella. [Lat.] A star.

Stephana. [Gr.] Feminine of **Stephen.**

Susan, Susanna, Susannah. [Heb.] A lily.—Dim. Sue, Suke, Suky, Susie.

Sylvia. [Lat.] Of the woods. Feminine of **Sylvius.**

T

Tabitha. [Syr.] A gazelle. — Dim. Tabby.

Theodora. [Gr.] Feminine of **Theodore.**—Dim. Dora, Theo.

Theodosia. [Gr.] The gift of God.

Theresa, Therese. [Gr.] Carrying ears of corn. — Dim. Tessie, Tess.

U

Ulrica. [Teut.] Rich.

Urania. [Gr.] Heavenly.—the name of one of the Muses.

Ursula. [Lat.] She-bear.

V

Valeria. [Lat.] Feminine of **Valerius.**

Veronica, Vera. [Ital.] Uncertain.

Victoria. [Lat.] Victory. Feminine of **Victor.**

Vida. [Erse.] Feminine of **David.**

Viola. [Lat.] A violet.—Dim. Vi.

Virginia. [Lat.] Virgin; pure.—Dim. Virgie, Jennie.

Vivian. [Lat.] Lively.—Dim. Vivie.

W

Wilhelmina. [O. H. G.] Feminine of **Wilhelm,** German of William.—Dim. Wilmett, Wilmot, Mina, Minella, Billie.

Winifred. [A.-S.] Lover of Peace.—Dim. Winnie.

Z

Zenobia. [Gr.] Having life from Jupiter.

Zoë. [Gr.] Life.

NICKNAMES OF FAMOUS PERSONAGES

A

Abdul II. of Turkey: "Abdul the Damnèd."

Adams, John: "The Duke of Braintree," because of his overbearing and rather haughty manners.

Adams, Samuel: "The American Cato."

Alexander the Great: "The Madman of Macedonia."

Alexander II. of Russia: "The Liberator."

Allen, Senator William: "The Ohio Gong"; "Earthquake Allen"; "Greenback Bill."

Angelico, Fra. *See* Giovanni da Fiesole.

Anne I. of England: "Good Queen Anne"; "Brandy Nose."

Aquinas, Thomas: "The Angelic Doctor"; "The Angel of the Schools".

Arthur, Chester A.: While he was Vice-President he was called, "The Prince of Wales"; by his intimates he was known as "Chet."

Attila: "The Scourge of God."

B

Balfour, A. J.: "Miss Alice."

Banks, Gen. N. P.: "The Bobbin Boy."

Barnum, P. T.: "The Greatest Showman on Earth."

Barnum, William H.: "Seven Mule Barnum."

Bayard, Pierre du Terrail: "The Chevalier without Fear and without Reproach."

Beaconsfield, Lord. *See* Disraeli, Benjamin.

Benton, Thomas H.: "Old Bullion."

Bismarck, Otto von: "The Iron Chancellor"; "The Man of Blood and Iron."

Blaine, James G.: "Nosey Blaine"; "Blaine of Maine"; "The Tattooed Man"; "The Plumed Knight"; "The Rupert of Debate," and "Jim the Penman," alluding to the Mulligan Letters.

Bland, Richard P.: "The Father of Free Silver"; "Silver Dick."

Blücher, Gebhard von: "Old Forward," (*Vorwärts*) from his indomitable courage, which made him always urge his soldiers on to battle, even though he himself was wounded. Another name for him was "Old Raw-Head and Bloody Bones."

Bonaparte, Napoleon: "The Heir of the Republic"; "The Man of Destiny."

Boone, Daniel: "Long Knife" (from the terror which he inspired in the Indians).

Borde, Andrew: (Physician to Henry VIII.) "Merry Andrew."

Boswell, James: "Bozzy."

Bradley, Justice Joseph: "Aliunde Joe," because in the Electoral Commission of 1877 he decided that certain points of issue were *aliunde* or irrelevant.

Brown, John: "Ossawatomie Brown."

Browne, C. F.: "Artemus Ward."

Brownlow, William G.: An ignorant and coarse fanatic during the Civil War on the side of the North. He afterwards became Governor and Senator from Tennessee. Because he had once been a Methodist minister, he was widely known as "Parson Brownlow."

Brummell, George: "Beau Brummell."

Bryan, William Jennings: "The Boy Orator of the Platte"; "The Rabbit's Foot Statesman."

Buchanan, James: Mr. Buchanan was a candidate for the Presidency with Senator Breckenridge as his "running mate." The two were popularly called "Buck and Breck." After the election, President Buchanan was styled "Old Buck"; also "The Old Public Functionary."

Bunyan, John: "The Bedford Tinker."

Burns, Robert: "Oor Rab"; "The Excise Poet"; "The Laureate of Scotland"; "The Ploughman Poet."

Butler, Gen. B. F.: "Old Spoons";

"Beast Butler"; "Cock-eyed Butler"; "Bottled-up Butler."

C

Carlyle, Thomas: "The Sage of Chelsea."
Carnegie, Andrew: "The Laird of Skibo."
Catherine II. of Russia: "The Semiramis of the North." (A name also given to Queen Christina of Sweden.)
Cenci, Beatrice: "The Beautiful Parricide."
Chamberlain, Joseph: "Brummagem Joe"; "Shifty Joe"; "Pushful Joe."
Charles (Crowned Emperor 800 A.D., and first head of the Holy Roman Empire): "Carolus Magnus," "Charlemagne."
Charles, last Duke of Burgundy: "The Bold" (*Le Téméraire*).
Charles I. of England: His enemies called him "The Man of Blood"; to his devoted followers, the Cavaliers, he was "The Martyr King."
Charles II. of England: called, from his gaiety and lively manners, "The Merry Monarch"; and also "Old Rowley." This last nickname came from a fancied resemblance of Charles to one of his hunting horses named Rowley.
Charles I. of France: "The Bald" (*Le Chauve*).
Charles II. of France: "The Fat" (*Le Gros*).
Charles III. of France: "The Simple" (*Le Sot*).
Charles IV. of France: "The Handsome" (*Le Bel*).
Charles V. of France: "The Wise" (*Le Sage*).
Charles II. of Navarre: "The Bad" (*Le Méchant*).
Charles XII. of Sweden: "The Madman of the North."
Chatterton, Thomas: "The Marvellous Boy."
Chaucer, Geoffrey: "The Father of English Poetry."
Churchill, Lord Randolph: "Our Randy."
Clay, Henry: "The Great Compromiser"—this in the latter part of his life. As a high-spirited, youthful politician, he was known as "Harry of the West"; and "The Mill-boy of the Slashes."
Cleveland, Grover: called by his enemies "The Perpetual Candidate"; and "The Stuffed Prophet."
Cobden, Richard: "The Apostle of Free Trade."
Cockran, W. Bourke: "The Mulligan Guard Demosthenes."
Cody, William F.: "Buffalo Bill."
Crichton, James: "The Admirable Crichton."
Croker, Richard: "Shifty Dick."
Cromwell, Oliver: "Old Noll"; and "The Protector."

D

Dana, Chas. A.: "The Nestor of the Press."
Darc, Jeanne: "The Maid of Orléans."
Democritus: "The Laughing Philosopher."
Devil, The: "Old Nick"; "Old Scratch"; "The Old Harry."
Dickens, Charles: "Boz." The illustrator of his early novels, H. K. Browne, was styled "Phiz."
Disraeli, Benjamin: (Lord Beaconsfield) "Dizzy."
Douglas, Stephen A.: "The Little Giant."

E

Edison, Thos. A.: "The Wizard of Menlo Park."
Edward, Prince of Wales, son of Edward III.: "The Black Prince."
Edward VII. of England: "Tummy."
Elizabeth of England: "Good Queen Bess"; and "The Virgin Queen."
Elliott, Ebenezer: "The Corn-Law Rhymer."
Emerson, R. W.: "The Sage of Concord."
Ethelred (Saxon King of England): "The Unready."
Eugénie, Empress of the French: "The Spaniard."
Evans, Robley D.: "Fighting Bob."

F

Fairbanks, Charles W.: "Icebanks."
Ferdinand, King of Naples: "King Bomba" (from his cruelty in shelling some of his cities and towns).
Foraker, Joseph B.: "Fire-alarm Foraker."
Forrest, Edwin: "The Roscius of the Bowery."

Foster, Secretary Charles: "Calico Charley."
Franklin, Benjamin: "Poor Richard." In France, he was styled "Le Bonhomme Richard."
Frederick the Great of Prussia: "Old Fritz" (*Alter Fritz*).
Frederick II., Emperor of Germany: "Our Fritz" (*Unser Fritz*).
Frémont, John C.: "The Pathfinder."

G

Garfield, James A.: "The Canal Boy."
Garibaldi, Giuseppe: "The Red Shirt Hero."
Garrick, David: "The British Roscius."
George I. of England: "The Hanoverian Rat."
George II. of England: "Dutch George."
George III. of England: "Farmer George."
George IV. of England: "The First Gentleman in Europe"; "Gentleman George."
Giovanni da Fiesole: "Fra Angelico."
Gladstone, W. E.: "The Grand Old Man"; also "The People's William." By his opponents he was styled, "The Grand Old Woman."
Goldsmith, Oliver: "Poor Noll."
Grant, U. S.: "Unconditional Surrender Grant"; "United States Grant"; "The Butcher."
"Great": A title of honor given to many monarchs by their subjects. Time has eliminated the title in a great number of instances; but history still applies it to Alexander the Great of Macedon; to Pope Gregory the Great; to Charles the Great (Charlemagne) of the Holy Roman Empire; to Alfred the Great of Saxon England; to Peter the Great of Russia; to Frederick the Great of Prussia; and to Napoleon the Great of France. (See Louis XIV.)
Gustavus Adolphus of Sweden: "The Lion of the North."

H

Hamilton, Alexander: "Alexander the Coppersmith" (1793).
Hamilton, W. G.: "Single-Speech Hamilton." An English statesman of the eighteenth century sat long in Parliament but made in all his career only one speech. This, however, was remarkably eloquent, full of close reasoning and persuasiveness.
Hancock, Winfield S.: "The Superb."
Hanna, Marcus A.: "The Business Man in Politics"; "Uncle Mark."
Harris, Joel Chandler: "Uncle Remus."
Harrison, Benj.: "Little Ben."
Hayes, Rutherford B.: "His Fraudulency"; "The Bread-Poultice President."
Heenan, John C.: "The Benicia Boy."
Henry I. of England: "Fine Scholar" (Beauclerc).
Henry V. of England: "Prince Hal."
Henry VIII. of England: "Bluff King Hal"; "Defender of the Faith."
Heraclitus: "The Weeping Philosopher."
Herodotus: "The Father of History."
Hippocrates: "The Father of Medicine."
Hogg, James: "The Ettrick Shepherd."
Holman, W. H.: "The Watch-dog of the Treasury."
Hooker, Gen. Joseph E.: "Fighting Joe."

I

Isabel of Castille and Aragon: "Isabel the Catholic."
Ivan II. of Russia: "The Terrible."

J

Jackson, Andrew: "Old Hickory."
Jackson, Gen. T. J.: "Stonewall Jackson."
Johnson, Andrew: "Our Andy."
Johnson, Samuel: "The Great Cham of Literature."

K

Kelly, John: "Honest John."
Kelly, William H.: "Pig-iron Kelly."
Kemble, Fanny: "Pretty Fanny."
Kipling, Rudyard: "The Man from Nowhere."
Knox, Philander C.: "Sleepy Phil."
Kruger, Paul: "Oom Paul" (Uncle Paul).

L

Landon, Letitia E.: "L. E. L."
Laynez, Don Roderigo: "The Cid."
Lee, Nathaniel: "The Mad Poet."

Lee, Robert E.: "Uncle Robert" (by his soldiers); "Massa Bob" (by the negroes).
Lincoln, Abraham: "Honest Abe"; "Old Abe"; "Father Abraham"; "The Great Emancipator"; "The Railsplitter"; "The Martyred President."
Lincoln, Robert T.: "The Prince of Rails."
Lind, Jenny: "The Swedish Nightingale."
Logan, John A.: "Black Jack."
Louis Philippe of France: "The Citizen King" (*Le Roi Citoyen*).
Louis I. of France: "The Débonnair" (gallant), or "The Pious."
Louis IV. of France: "The Foreigner," (*Le d'Outremer*) because he was educated in England.
Louis V. of France: "The Sluggard" (*Le Fainéant*).
Louis VI. of France: "The Fat" (*Le Gras*).
Louis VIII. of France: "The Lion" (*Le Lion*).
Louis XI. of France: "The Fox" (*Le Rénard*).
Louis XIV. of France: "The Great King" (*Le Grand Monarque*).
Louis XVI. of France: "The Joiner" (*Le Charpentier*), because of his fondness for carpentry and mechanics; also "The Baker," being held responsible for the food supply.

M

McClellan, Gen. G. B.: "The Young Napoleon"; "Little Mac."
McKinley, William: "The Advance Agent of Prosperity."
Marie Antoinette, Queen of France: "The Austrian."
Mary I. of England: "Bloody Mary."
Meissonier, Jean Louis: "The Great Painter of Little Pictures."
Melanchthon, Philip: "The Preceptor of Germany."
Meyer, Gen. H. J.: "Old Probs," because he established the Weather Bureau at Washington.
Miller, Joaquin: "The Poet of the Sierras."
Moltke, Helmuth von: "Father Moltke."
Monmouth, Duke of (the natural son of King Charles II. of England): "The Protestant Duke."

N

Napoleon I.: "The Little Corporal"; "Nap" (in England); "Boney" (in England); "The Nightmare of Europe."
Napoleon II.: "The Eaglet."
Napoleon III.: "Badingue." (The name of the workman in whose garments Napoleon escaped from the Castle of Ham.)
Napoleon IV. (The Prince Imperial): "Loulou."
Napoleon, Prince (J. C. Bonaparte): "Plon-Plon." The Prince was said to have shown the white feather in the Crimean War; and the French, therefore, named him "Plon-Plon," supposed to represent the sound of cannon.
Nelson, Admiral Horatio: "The Hero of Trafalgar."
Neville, Richard (Earl of Warwick): "The King-Maker." (See Warwick.)
Ney, Marshal Michel: "The Bravest of the Brave" (*Le plus brave des braves*).
Nightingale, Florence: "The Angel of the Crimea."

O

O'Connell, Daniel: "The Liberator."

P

Palmerston, Lord: "Old Pam."
Peel, Sir Robert: "Corn Law Bobby"; and "Orange Peel" (from his anti-Catholic policy).
Pitt, William, Duke of Chatham: "The Great Duke."
Platt, Thomas C.: "Me Too"; "The Easy Boss."
Pope, Alexander: "The Wasp of Twickenham."

R

Reed, Thomas B.: "Czar Reed."
Richard I. of England: "The Lion Heart" (*Cœur de Lion*).
Riley, James Whitcomb: "The Hoosier Poet."
Robert, the First Duke of Normandy: "Robert the Devil."
Roosevelt, Theodore: "Teddy"; "Terrible Teddy"; "The Bronco-Buster"; "Teddy the First"; "T.

R."; "Our Teddy"; "The Hero of San Juan"; "The Trust Slayer"; "Toothful Teddy"; "Teddy the Smiler"; "The Man Who Would Be King."

S

St. John: "The Beloved Disciple."
St. Stephen: "The Proto-Martyr."
Salisbury, Lord: "A Lath Painted to Look Like Iron."
Scott, Sir Walter: "The Wizard of the North"; "The Border Minstrel"; "The Great Unknown."
Scott, Gen. Winfield: "Old Fuss and Feathers," from his fondness for military display. It is he who is invoked in the exclamation, "Great Scott."
Sewall, Arthur: "The Lone Fisherman of Bath."
Shakespeare, William: "The Bard of Avon"; "The Swan of Avon"; "The Divine William."
Sheridan, Gen. Philip: "Little Phil"; "Piegan Phil," from the Piegan Indians whom he annihilated.
Sheridan, Richard Brinsley: "Sherry."
Sherman, Gen. William Tecumseh: "Uncle Billy"; "Old Tecump."
Simpson, Jerry: "Sockless Simpson"; "Uncle Jerry."
Smith, Gen. J.: "Hell-Roaring Jake."
Stevens, Thaddeus: "The Great Commoner."
Stone, Gov. William L.: "Gum-shoe Bill."
Stratton, Charles H.: "Tom Thumb."
Stuart, Prince Charles Edward: "The Young Chevalier"; "The Young Pretender" (1720–88).

T

Taylor, Zachary: "Old Rough and Ready."
Thurman, Allen G.: "The Old Roman"; "Old Bandanna."
Tilden, Samuel J.: "Co-parcener Tilden," from his alleged relations with unscrupulous financiers.
Tilman, Benjamin R.: "Pitchfork Tilman."
Tyler, John: "The Renegade."

V

Van Buren, Martin: "Little Matty"; "The Fox of Kinderhook."
Victoria, Queen of England: "The Widow."
Voorhees, Daniel W.: "The Tall Sycamore of the Wabash."

W

Warwick, Earl of (see Neville, Richard).
Washington, George: "The Father of His Country."
Wayne, Gen. Anthony: "Mad Anthony."
Webster, Daniel: "Black Dan"; "The Expounder of the Constitution."
Wellington, the Duke of: "The Iron Duke."
Wheeler, Gen. Joseph: "Fighting Joe Wheeler."
Whitman, Walt: "The Good Grey Poet."
Whittier, John G.: "The Quaker Poet."
William I. (of the Netherlands): "William the Silent."
William (King of Scotland): "William the Lion."
William I. of England: "The Conqueror."
William II. of England: "The Red."
William III. of England: "The Dutchman."
William IV. of England: "The Sailor King"; "Silly Billy."
William I. of Germany: "William the Wise."
William II. of Germany: "William the Bagman"; "William the Previous"; "William the War-Lord."
Williams, Eleazar: "Louis XVII." (Williams claimed that he was the son of Louis XVI., and had not died in prison.)
Willis, N. P.: "Natty Nat."
Wilson, Henry (Vice-President): "The Natick Cobbler."
Woodruff, Timothy L.: "Tiny Tim."

Famous Characters in Poetry and Prose.

COMPILED BY

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Formerly Professor in the New York University.

Abbondio, Don, a priest in Manzoni's *The Betrothal.* His name has become a synonym of selfish prudence.

Abdiel, one of the seraphim, represented in Milton's *Paradise Lost* as having boldly withstood Satan when the latter revolted.

Abou Hassan, hero of "The Sleeper Awakened," in the *Arabian Nights,* who is tricked for a time into believing himself Caliph.

Absalom, in Dryden's *Absalom and Achitophel,* the Duke of Monmouth, natural son of Charles II.

Absolute, Captain, a gallant, high-spirited character in Sheridan's *The Rivals.*

Absolute, Sir Anthony, father of the above, an irascible but generous character in *The Rivals.*

Achitophel, the Earl of Shaftesbury, in Dryden's *Absalom and Achitophel.*

Acres, Bob, a character in *The Rivals,* whose courage "oozes out at his fingers' ends."

Adams, Parson Abraham, a country curate in Fielding's *Joseph Andrews,* distinguished for his learning, his simplicity, kindliness and many eccentricities.

Agramante, King of the Moors, in Ariosto's *Orlando Furioso.*

Ague-cheek, Sir Andrew, a silly old fop in Shakespeare's *Twelfth Night,* who thinks himself "old in nothing but understanding."

Aladdin, the hero of one of the *Arabian Nights* tales, possessed of a wonderful ring and lamp.

Alceste, hero of Molière's *The Misanthrope,* an upright and manly character grown rude through his intolerance of every-day social hypocrisies.

Alice, the child heroine of two famous fairy tales, Lewis Carroll's *Alice's Adventures in Wonderland* and *Through the Looking-Glass.*

Allworthy, Squire, a character in Fielding's *Tom Jones,* distinguished for his worth and benevolence.

Amadis de Gaul, the hero of an ancient and celebrated romance of chivalry, of Portuguese origin.

Ameera, the native wife of Holden, in Kipling's *Without Benefit of Clergy.*

Amelia, the heroine of Fielding's novel of that name, distinguished for conjugal affection. Said to be drawn from Fielding's wife.

Amory, Blanche, one of the two heroines of Thackeray's *Pendennis.*

Ancient Mariner, hero of Coleridge's poem of that name, who for the crime of having shot an albatross, suffers dreadful penalties.

Andrews, Joseph, hero of Fielding's novel of that name, depicted as a model of purity. In ridicule of Richardson's *Pamela,* he is represented as her brother.

Antonio, the "Merchant of Venice," in Shakespeare's play of that name.

Aramis, one of the four heroes of Dumas's *Three Musketeers,* characterized by craftiness, hypocrisy and profound subtlety.

Arden, Enoch, a shipwrecked sailor in Tennyson's poem of that name, who returns to find his wife remarried.

Ariel, a spirit in Shakespeare's *The Tempest.*

Armida, a beautiful sorceress, who plays a leading part in Tasso's *Jerusalem Delivered.*

Artful Dodger, a young thief in Dickens's *Oliver Twist,* who is an adept in villainy.

Arthur, King, a legendary British

king, famous in romance, celebrated by Tennyson in *Idylls of the King*.

Ashton, Lucy, heroine of Scott's *Bride of Lammermoor*.

Atalanta, one of Diana's maids, skilled as an archer, the heroine of Swinburne's *Atalanta in Calydon*.

Athelstane, a Saxon thane, surnamed The Unready, who plays a prominent part in Scott's *Ivanhoe*.

Athos, one of the four heroes of Dumas's *Three Musketeers*, characterized by his gentle and noble nature and his keen sense of honor.

Aurispa, Georgio, hero of D'Annunzio's novel, *The Triumph of Death*, symbol of utter satiety and world-weariness.

Autocrat, The (of the Breakfast Table), the genial and humorous spokesman whose observations on literature and life form the substance of Oliver Wendell Holmes's volume of the same name.

B

Baba, Ali, a character in the *Arabian Nights*, who, having overheard "sesame," the password of the Forty Thieves, opens their cave.

Babbie, the heroine of Barrie's *The Little Minister*.

Backbite, Sir Benjamin, a slanderous character in Sheridan's *School for Scandal*.

Balderstone, Caleb, The Master of Ravenswood's butler, in Scott's *Bride of Lammermoor*.

Banquo, a chieftain in Shakespeare's *Macbeth*, murdered by Macbeth.

Bardell, Mrs., a widow in Dickens's *Pickwick Papers*, who sues Mr. Pickwick for breach of promise.

Bardolph, a red-nosed follower of Falstaff, in Shakespeare's *Henry IV* and *Merry Wives of Windsor*.

Barkis, an eccentric character in Dickens's *David Copperfield*, whose proposal of marriage took the form of "Barkis is willin'."

Bart, Lily, the heroine of Mrs. Wharton's *The House of Mirth*, foredoomed by her birth and conventional training to fail in her single-handed battle against society.

Barton, Rev. Amos, the central figure in George Eliot's *Sad Fortunes of the Rev. Amos Barton*.

Bates, Miss, a simple-minded, kindly, well-meaning character in Miss Austen's *Emma*, famous for her unquenchable flow of trivial and disjointed conversation.

Battle, Mrs., a character famous for her knowledge of whist, in Lamb's *Essays of Elia*.

Beaucaire, Monsieur, the name assumed by a young French prince sojourning incognito in England, in Booth Tarkington's graceful little romance of that name.

Bede, Adam, the hero of George Eliot's novel of that name.

Bedott, Widow, the pretended author of a series known as the *Widow Bedott Papers*, published in 1867.

Belinda, the heroine of Pope's *Rape of the Lock*.

Bell, Laura, one of the heroines of Thackeray's *Pendennis*, who finally marries Arthur.

Bell, Peter, the hero of Wordsworth's poem of that name.

Bellaston, Mrs., a profligate character in Fielding's *Tom Jones*.

Belloni, Sandra, an Italian woman of genius, heroine of Meredith's two novels, *Sandra Belloni* and *Vittoria*.

Benedick, a gay, light-hearted young lord of Padua, in Shakespeare's *Much Ado about Nothing*, who, although sworn to celibacy, ends by marrying Beatrice.

Bennet, Elizabeth, the heroine of Miss Austen's *Pride and Prejudice*.

Benvolio, in Shakespeare's *Romeo and Juliet*, the friend of Romeo and nephew of old Montague.

Bergerac, Cyrano de, the hero of Rostand's play by that name.

Berling, Gosta, the hero of Selma Lagerlöf's mystic, half legendary *Saga of Gosta Berling*.

Bertram, the hero of Shakespeare's *All's Well that ends Well*.

Biglow, Mr. Hosea, the feigned author of a series of humorous satiric poems, in Yankee dialect, written by James Russell Lowell.

Bilfil, a sneak in Fielding's *Tom Jones*, nephew of Mr. Allworthy.

Birch, Harvey, the hero of Cooper's *Spy*.

Birotteau, César, a perfumer whose career is related in Balzac's *Rise and Fall of César Birotteau*.

Blimber, Miss Cornelia, a learned, prim and precise school teacher in Dickens's *Dombey and Son*.

Bobadil, Captain, a beggarly and

cowardly adventurer in Ben Jonson's *Every Man in his Humor.*

Bois Guilbert, Brian de, preceptor of the Knights Templars in Scott's *Ivanhoe.*

Boniface, a landlord in Farquhar's *Beaux' Stratagem:* hence, generally, for a landlord.

Bonnard, Sylvestre, one of the many worthy, whimsical and lovable types of savant and book-lover depicted by Anatole France; he is the central figure in *The Crime of Sylvestre Bonnard.*

Booby, Lady, a vulgar upstart who, in Fielding's *Joseph Andrews,* plays Potiphar's wife to the hero's Joseph.

Bottom, Nick, the weaver-actor in Shakespeare's *Midsummer Night's Dream,* beloved of Titania.

Bovary, Madame, the heroine of Flaubert's novel of that name, which relentlessly pictures the slow moral disintegration of a weak woman bored by the sordid narrowness of provincial life.

Bowles, Tom, blacksmith and manufacturer in Bulwer's *Kenelm Chillingly.*

Bowling, Tom, an admirable naval character in Smollett's *Roderick Random.*

Box and Cox, a "dramatic romance of real life," by John M. Morton, and the names of the chief characters.

Bradwardine, Rose, the heroine of Scott's *Waverley,* the hero of which she finally marries.

Bragelonne, Vicomte de, son of Athos and an important character in the series of novels which continue the adventures of Dumas's *Three Musketeers.*

Bramble, Matthew, a gouty dyspeptic yet kind-hearted character in Smollett's *Roderick Random.*

Brangtons, characters in Miss Burney's *Evelina,* who became a synonym of vulgarity and jealousy.

Brass, Sally and Sampson, sister and brother, shysters in Dickens's *Old Curiosity Shop.*

Breck, Alan, a Jacobite fugitive, who shares the adventures of Stevenson's David Balfour.

Brent, John, hero of Theodore Winthrop's novel of the same name.

Brooke, Dorothea, the heroine of George Eliot's *Middlemarch.*

Brown, Tom, the hero of Thomas Hughes's famous story of English school life, *Tom Brown's School-days,* and its sequel, *Tom Brown at Oxford.*

Bumble, the conceited beadle in Dickens's *Bleak House.*

C

Caius, Doctor, A French physician in Shakespeare's *Merry Wives of Windsor.*

Caliban, a savage and deformed slave of Prospero's, in Shakespeare's *The Tempest.*

Camille, the name, in the English version, of Marguérite Gautier, heroine of Dumas's play, *The Lady with the Camelias.*

Candida, the heroine of Bernard Shaw's play of the same name.

Candide, the sorely afflicted and philosophically optimistic hero of Voltaire's novel by that name.

Candor, Mrs., a noted slanderer in Sheridan's *School for Scandal.*

Caponsacchi, the hero of Browning's *The Ring and the Book.*

Capulet, the father of Juliet, in Shakespeare's *Romeo and Juliet.*

Carmen, a Spanish gypsy, heroine of Mérimée's story by that name, and of the opera based upon it.

Carton, Sydney, hero of Dickens's *Tale of Two Cities,* who sacrifices his life to save Charles Darney.

Carvel, Richard, hero of Winston Churchill's novel of that name.

Casaubon, Mr., type of barren pedantry, in George Eliot's *Middlemarch.*

Cassio, Othello's lieutenant and Iago's tool, in Shakespeare's *Othello.*

Castlewood, Beatrix, heroine of Thackeray's *Henry Esmond.*

Caudle, Mrs. Margaret, the feigned author of a series of famous "Curtain Lectures," written by Douglas Jerrold.

Caxton, Pisistratus, an important character in Bulwer's novel, *The Caxtons.*

Chicot the Jester, a French court jester, who figures prominently in Dumas's series of Valois romances.

Chillingly, Kenelm, hero of Bulwer's novel of that name.

Chillingworth, Roger, the secret husband of Hester Prynne, in Hawthorne's *Scarlet Letter.*

Chingachcook, an Indian chief,

prominent in Cooper's *Last of the Mohicans*, *Pathfinder*, *Deerslayer* and *Pioneer*.

Cho-cho San, the heroine of John Luther Long's *Madame Butterfly*.

Christabel, heroine of Coleridge's mystic poem of that name.

Christian, hero of Bunyan's *Pilgrim's Progress*.

Christiana, wife of Christian, in *Pilgrim's Progress*.

Chuzzlewit, Martin, the selfish hero of Dickens's novel of that name.

Cigarette, "child of the army and soldier of France," heroine of Ouida's *Under Two Flags*.

Clare, Ada, ward of Jarndyce, and wife of Carstone, in Dickens's *Bleak House*.

Clarke, Micah, hero of Conan Doyle's novel of that name.

Clay, Robert, hero of Richard Harding Davis's *Soldier of Fortune*; modern variant of the "Admirable Crichton" type, invincible in whatever he undertakes.

Clifford, Paul, highwayman hero of Bulwer's novel of that name.

Clinker, Humphrey, hero of Smollett's novel of that name.

Coelebs, hero of Hannah More's *Coelebs in Search of a Wife*.

Coffin, Long Tom, one of the most widely known sailor characters in all fiction; prominent in Cooper's *The Pilot*.

Collins, Mr., one of Miss Austen's inimitable satires upon a certain type of the English clergy; occurs in *Pride and Prejudice*.

Constantin, Abbé, a lovable old French abbé, in Halévy's novel of that name.

Consuelo, a Spanish opera singer, heroine of George Sand's novel of that name, and of its sequel, *The Countess of Rudolstadt*.

Copperfield, David, the hero of Dickens's novel of that name.

Cordelia, the youngest and the only faithful daughter in Shakespeare's *King Lear*.

Corinne, heroine of Mme. de Staël's novel of that name.

Corkran, Arthur, known to his comrades as Stalky, hero of Kipling's schoolboy story, *Stalky & Co.*

Costigan, Captain, a disreputable but amusing Irishman, in Thackeray's *Pendennis*, father of the hero's first love, Miss Fotheringay.

Coverly, Sir Roger de, famous type of old-time country gentleman, in Addison's *Spectator*.

Crane, Ichabod, a credulous Yankee schoolmaster, whose adventures are related in Irving's *Legend of Sleepy Hollow*.

Cratchit, Tiny Tim, the pathetic crippled child in Dickens's *Christmas Carol*.

Crawley, Rawdon, the husband of Becky Sharp, in Thackeray's *Vanity Fair*.

Crusoe, Robinson, hero of De Foe's famous story of that name.

Cuttle, Captain, a simple nautical person in Dickens's *Dombey and Son*.

Cymbeline, a British king, whose name is preserved in Shakespeare's *Cymbeline*.

D

Dale, Lily, heroine of Trollope's *Small House at Allington*, jilted by Crosbie.

Dalgarno, a profligate Scottish lord in Scott's *Fortunes of Nigel*.

Dantes, Edmond, the hero of Dumas's *Count of Monte Cristo*.

Darcy, Fitzwilliam, hero of Miss Austen's *Pride and Prejudice*, whose pride is on a par with Elizabeth Bennet's prejudice.

D'Artagnan, Gascon, soldier of fortune, hero of Dumas's *Three Musketeers*, *Twenty Years After*, and *The Vicomte de Bragelonne*.

Daw, Marjorie, the purely mythical heroine of Thomas Bailey Aldrich's romance of the same name.

Deans, Douce Davie, a pious Presbyterian in Scott's *Heart of Midlothian*, father of Effie and of Jeanie the heroine.

Dedlock, Lady, a proud, beautiful and unfortunate character in Dickens's *Bleak House*.

Delphine, heroine of Mme. de Staël's novel of that name.

Deronda, Daniel, hero of George Eliot's novel of that name.

Desdemona, heroine of Shakespeare's *Othello*.

Dimsdale, Rev. Arthur, the seducer of Hester Prynne in Hawthorne's *Scarlet Letter*.

Dinsmore, Elsie, the unnaturally pious and conscientious heroine of a lengthy and popular series of juve

ile stories, the *Elsie Books*, by Martha Findley.

Dishard, Gavin, the hero of Barrie's novel, *The Little Minister.*

Dobbin, Major, in Thackeray's *Vanity Fair*, a model of patient fidelity, who at last wins Amelia Osborne.

Dodd, David, hero of Charles Reade's *Love me Little, Love me Long*, and an important character in its sequel, *Hard Cash.*

Dogberry, an absurd and loquacious night-constable in Shakespeare's *Much Ado about Nothing.*

Dombey, Mr., a proud, stern merchant in Dickens's *Dombey and Son*, father of sickly little Paul Dombey.

Dominie, Sampson, eccentric schoolmaster in Scott's *Guy Mannering.*

Donatello, the faun-like hero of Hawthorne's *Marble Faun*, whose higher nature is suddenly awakened after the commission of a great crime.

Don Juan, a mythical personage who figures largely in drama and literature as the type of the refined libertine. (2) The hero of Byron's audacious and satiric poem of that name.

Donovan, Dickie, the hero of a series of adventures in the Anglo-Egyptian civil service, in Gilbert Parker's *Donovan Pasha.*

Don Quixote, the eccentric hero of Cervantes's famous romance of that name; crazed from excessive reading of romances of chivalry.

Dooley, Mr., an uncultured but shrewd Irishman, whose common-sense philosophy of life forms the essence of Peter F. Dunne's *Mr. Dooley in Peace and War.*

Doone, Lorna, heroine of Blackmore's novel of that name.

Dorrit, Edward, "the father of the Marshalsea," in Dickens's *Little Dorrit.*

Dulcinea del Toboso, a country maid beloved of Don Quixote.

Dundreary, Lord, eccentric Englishman in Taylor's comedy, *Our American Cousin.*

Durbyville, Tess, heroine of Hardy's *Tess of the d'Urbervilles, a Pure Woman.*

Durie, Henry, called Mr. Henry, brother of *The Master of Ballantrae*, in Stevenson's novel of that name.

Durie, James, known as The Master, in Stevenson's *Master of Ballantrae.*

Duval, Armand, lover of Marguerite Gautier, in Dumas's play, *The Lady with the Camelias.*

E

Easy, Mr. Midshipman, hero of Marryat's novel of that name.

Edgar, legitimate son of Gloucester in Shakespeare's *King Lear.*

Edmund, natural son of Gloucester.

Elaine, the "lily maid of Astolat," heroine of that one of Tennyson's *Idylls of the King* which bears her name.

Elia, pseudonym under which Charles Lamb wrote his celebrated series of essays.

Eliot, Anne, heroine of Jane Austen's *Persuasion.*

Elsmere, Robert, hero of Mrs. Humphry Ward's novel of that name, which follows a clergyman's struggle between orthodoxy and agnosticism.

Esmond, Henry, the hero of Thackeray's historical novel of that name.

Evangeline, heroine of Longfellow's familiar poem of that name.

Evelina, heroine of Miss Burney's novel which bears her name.

Everdene, Bathsheba, heroine of Hardy's *Far from the Madding Crowd.*

Eyre, Jane, the heroine of Charlotte Brontë's novel that bears her name.

F

Fagin, a jew thief and receiver of stolen goods, in Dickens's *Oliver Twist.*

Faithful, Jacob, hero of Marryat's novel of that name.

Falstaff, Sir John, Shakespeare's greatest achievement as a comic character; fat, sensual and mendacious, a boaster and a coward, he forms the chief interest of *The Merry Wives of Windsor* and *Henry IV.*

Fathom, Ferdinand, Count, an unmitigated scoundrel, who gives his name to a novel by Smollett.

Fauntleroy, Little Lord, the American born heir to the estates and title of the Earl of Dorincourt, in Mrs. Burnett's story of that name.

Faust, hero of Goethe's dramatic poem of that name; he sells his soul to the devil in exchange for renewed youth.

Ferrers, Endymion, the hero of Disraeli's *Endymion.*

Feverel, Richard, hero of Meredith's novel, *The Ordeal of Richard Feverel.*

Figaro, the sharp-witted hero of Beaumarchais's *Le Marriage de Figaro.*

Finn, Phineas, central figure in Trollope's novel of that name and its sequel, *Phineas Redux.*

Firmin, Philip, hero of Thackeray's *Adventures of Philip.*

Fleming, Rhoda, heroine of Meredith's novel of that name.

Fogg, Phineas, eccentric Englishman who, in Jules Verne's *Around the World in Eighty Days,* bets that he can achieve that feat, and wins the wager.

Foker, Harry, a good-natured, simple friend of Arthur's in Thackeray's *Pendennis.*

Fosco, Count, the arch villain in Collins's novel, *The Woman in White.*

Fountain, Lucy, heroine of Charles Reade's *Love me Little, Love me Long.*

Francheschini, Guido, Count, the husband of the heroine of Browning's *The Ring and the Book.*

Francheschini, Pompilia, the heroine of *The Ring and the Book.*

Frankenstein, a student, in Mrs. Shelley's novel of that name, who constructed from fragments of human bodies a monster in human form, but without a soul.

Friday, Crusoe's servant and man in De Foe's *Robinson Crusoe.*

G

Gabler, Hedda, heroine of Ibsen's play of the same name; the modern neurotic type of woman, who finds conventional domesticity unbearable.

Gadsby, Captain Philip, hero of Kipling's early work, *The Story of the Gadsbys,* showing how an Anglo-Indian officer was spoiled for active service by marriage.

Gallus, the hero of Becker's erudite and academic novel of classic Rome, which bears the name Gallus.

Gamp, Sarah, a talkative and bibulous nurse in Dickens's *Martin Chuzzlewit.*

Gargantua, the giant hero of Rab
lais's famous work of the same nam
son of Grangousier.

Gaunt, Griffeth, husband of Kat
and hero of Reade's novel beari
his name. He is the personificati
of jealousy.

Gautier, Marguérite, heroine
Dumas's play, *The Lady with t
Camelias.*

Gay, Walter, husband of Floren
Dombey in Dickens's *Dombey a
Son.*

Gerard, Brigadier, an officer of t
Grande Armée, fire-eater and bra
gart, whose self-related exploits,
the volume by Conan Doyle whi
bears his name, form a genial sati
on the foibles and virtues of Fren
character.

Gil Blas, the hero of a celebrat
novel of Spanish manners by
Sage.

Gilpin, John, a "London Citizen
whose extraordinary ride is cel
brated in a poem by Cowper.

Ginevra, the heroine of a poem
Samuel Rogers, who perished tra
cally on her wedding day by bei
locked in a huge chest which clos
with a spring.

Goneril, Lear's eldest daughter
Shakespeare's *King Lear.*

Gosling, Giles, landlord of the Bla
Bear Inn, in Scott's *Kenilworth.*

Gradgrind, Thomas, a "man of fac
and calculations," in Dicken
Hard Times.

Grandet, Eugénie, heroine of Balza
novel of that name.

Grandison, Sir Charles, intended
Richardson, in his novel by th
name, to represent his ideal of t
good Christian and the perfe
English gentleman.

Grangousier, father of Gargantua
Rabelais's famous work.

Gray, Vivian, the hero of Disrael
novel of that name.

Greaves, Sir Launcelot, the hero o
novel by Smolett.

Griggs, Paul, the supposed narrat
of Marion Crawford's first nov
Mr. Isaacs. He also figures in lat
novels, notably *Paul Patoff.*

Grimaud, valet of Athos in Duma
Three Musketeers series; model
faithfulness and taciturnity.

Grisel, the heroine of Barrie's *Se
timental Tommy.*

Griselda, The Patient, the heroine of Chaucer's *Clerk of Oxenford's Tale,* immortalized for her meekness and virtue.

Grundy, Mrs., a personage often mentioned, but not introduced, in Morton's comedy, *Speed the Plough.* The recurrent question, "What will Mrs. Grundy say?" has made the name proverbial.

Guest, Stephen, the lover for whom Maggie Tulliver breaks faith with Philip Wakem, in George Eliot's *Mill on the Floss.*

Guinevere, faithless wife of King Arthur; heroine of that one of Tennyson's *Idylls of the King* which bears her name.

Gulliver, Lemuel, hero of Swift's satiric romance, *Gulliver's Travels.*

Guzman de Alfarache, the hero of a celebrated Spanish picaroon novel which, together with its predecessor, *Lazarille de Termes,* founded the type of Romance of Roguery, the surviving influence of which is still apparent in *Pickwick.*

Gynt, Peer, hero of Ibsen's drama of that name.

H

Haidee, a beautiful Greek girl in Byron's *Don Juan.*

Hajji Baba, the hero of a sort of Persian picaroon novel of the same name, by James Morier, written on the *Gil Blas* model.

Halifax, John, the hero of Mrs. Craik's novel, *John Halifax, Gentleman,* who rises from extreme poverty, by faithfulness and courage, to wealth and position.

Hamlet, the hero of Shakespeare's tragedy of that name.

Handy Andy, the hero of an Irish tale of that name by Samuel Lover.

Hardcastle, Miss, the pretty and spirited heroine of Goldsmith's *She Stoops to Conquer,* who "stoops" to a pardonable deceit in order to "conquer" the bashfulness of Marlow, whom she loves.

Harleth, Gwendolin, the heroine of George Eliot's *Daniel Deronda.*

Harlowe, Clarissa, the heroine of Richardson's novel of that name.

Harold, Childe, the world-weary hero of Byron's poem, *Childe Harold's Pilgrimage.*

Harpagon, the avaricious hero of Molière's *L'Avare.*

Harris, Mrs., a non-existent person constantly referred to by Mrs. Gamp in Dickens's *Martin Chuzzlewit,* as authority for her own fabrications and fancies.

Harum, David, an eccentric but lovable character, country banker and shrewd judge of horses, hero of Edward Noyes Westcott's novel of the same name.

Harvey, Clarence, hero of Miss Edgeworth's novel, *Belinda.*

Hauksbee, Mrs., a character prominent in a number of Kipling's earlier stories, defined as having "once in her life done a good deed for another woman."

Heep, Uriah, a hypocritical sneak in Dickens's *David Copperfield.*

Heldar, Dick, the artist hero of Kipling's *Light that Failed,* whose hope of winning Maisie ends with his blindness.

Helena, the heroine of Shakespeare's *All's Well that Ends Well.*

Helmar, Nora, the heroine of Ibsen's *Doll's House,* who asserts the right of a wife to be something more than a man's plaything.

Hermil, Tullio, hero of D'Annunzio's novel, *The Intruder,* driven by remorse to confess the murder of a child.

Hexam, Lizzie, in love with Wrayburn in Dickens's *Our Mutual Friend.*

Hiawatha, a legendary character of American Indian tradition, hero of Longfellow's poem of that name.

Hilda, one of the two chief female characters in Hawthorne's *Marble Faun.*

Holmes, Sherlock, an invincible detective, who arrives at his solutions by the sheer force of his analytical reasoning; hero of Conan Doyle's *Adventures of Sherlock Holmes.*

Holt, Felix, the working man's champion, hero of George Eliot's novel, *Felix Holt, Radical.*

Honeycomb, Will, a prominent member of the imaginary club by whom the *Spectator* was edited.

Honeyman, Charles, a fashionable preacher in Thackeray's *Newcomes.*

Hopeful, a pilgrim in Bunyan's *Pilgrim's Progress.*

Horatio, the scholar friend of Hamlet in Shakespeare's *Hamlet.*

Huckleberry Finn, the hero of Mark Twain's story of that name.

Hudibras, the hero of Butler's poem of that name; a sort of Presbyterian Don Quixote.

Hyde, Mr., one phase of the dual personality in Stevenson's *Dr. Jekyll and Mr. Hyde;* symbolic embodiment of man's evil nature, separated from his nobler part.

Hypatia, a cultured Athenian woman who lived in the fifth century, at Alexandria; heroine of Charles Kingsley's novel of that name.

I

Iago, the villain of Shakespeare's *Othello.*

Ibbetson, Peter, the hero of Du Maurier's novel of the same name.

Imogen, the heroine of Shakespeare's *Cymbeline.*

Innes, Evelyn, the heroine of George Moore's novel of that name and its sequel, *Sister Teresa,* driven by conscience to leave an immoral life and enter a sisterhood.

Isabella, heroine of Shakespeare's *Measure for Measure.*

Ivanhoe, the hero of Scott's novel of that name.

J

Jack, Colonel, the hero of De Foe's novel of that name.

Jaffier, the hero of Otway's *Venice Preserved.*

Jaques, a melancholy philosopher in Shakespeare's *As You Like It.*

Jarndyce, a benevolent character in Dickens's *Bleak House.*

Jekyll, Dr., the normal or nobler phase of a dual personality in Stevenson's symbolic novel, *Dr. Jekyll and Mr. Hyde.*

Jessica, the beautiful daughter of Shylock, in Shakespeare's *Merchant of Venice.*

Jingle, Alfred, an adventurer in Dickens's *Pickwick Papers.*

Jones, Tom, hero of Fielding's novel of that name.

Jourdain, M., hero of Molière's *Bourgeois Gentilhomme,* famous for his naïve discovery that he spoke in prose.

Julie, heroine of Rousseau's novel, *Julie, ou la Nouvelle Héloïse.*

Juliet, heroine of Shakespeare's *Romeo and Juliet.*

K

Karenina, Anna, heroine of Tolstoy's novel of that name.

Kilmansegg, the heroine of Thomas Hood's poem, "The Golden Legend," distinguished for the possession of one artificial leg of solid gold.

Kim, an Anglo-Indian waif, nurtured in the native bazaars and used as a spy by the British secret service, hero of Kipling's novel of that name.

L

Lady Bountiful, a benevolent character in Farquhar's *Beaux' Stratagem.*

Laertes, brother of Ophelia in Shakespeare's *Hamlet.*

Lalla Rookh, the heroine of Moore's poem of that name.

Languish, Lydia, the romantic heroine of Sheridan's *The Rivals.*

Lantier, Claude, hero of Zola's *L'Œuvre;* an artist who, in despair of attaining his ideal, hangs himself.

Lantier, Jacques, hero of Zola's *Bête Humaine,* a railroad engineer with homicidal mania.

Lapham, Silas, self-mad' whose fortune is based on a patent paint, and career is traced in Howells's *Rise and Fall of Silas Lapham.*

Lavender, natural daughter of Ruth the Laundress, and heroine of Pinero's play, *Sweet Lavender.*

Lavender, Dr., prominent character in Margaret Deland's *Old Chester Tales.*

Leatherstocking, sobriquet given to Natty Bummpo, a hunter, most famous of Cooper's characters; he appears in *The Pioneer, The Last of the Mohicans, The Pathfinder, The Deerslayer,* and *The Prairie.*

Le Coq, M., a famous French detective, figuring prominently in a number of novels by Gaborieau.

Legree, Simon, the brutal slave master in Mrs. Stowe's *Uncle Tom's Cabin,* who has Uncle Tom whipped to death.

Leigh, Sir Amyas, hero of Charles Kingsley's *Westward Ho!*

Leigh, Aurora, the heroine of Mrs. Browning's poem novel of that name.

Leila, the heroine of Byron's romantic poem, *The Giaour.*

Lenore, the "rare and radiant maid-

en" mentioned in Poe's poem, *The Raven.*

Little, Henry, hero of Reade's *Put Yourself in His Place.*

Little Billee, the hero of Du Maurier's *Trilby,* forming, with Taffy and The Laird, the "Three Mousquetaires of the Brush."

Little Nell, a precocious and phenomenally good child, forming the central interest of Dickens's *Old Curiosity Shop.*

Lochinvar, the hero of Scott's ballad, *Young Lochinvar,* sung by Lady Heron in *Marmion.*

Locke, Alton, a tailor, poet, and exponent of Christian socialism, hero of Kingsley's novel of that name.

Lorequer, Harry, the hero of Charles Lever's novel of that name.

Lothair, Marquis of, the hero of Disraeli's novel, *Lothair.*

Lovelace, a man of fashion and gallantry, the hero of Richardson's *Clarissa Harlowe.*

Lumpkin, Tony, a dull-witted country squire, in Goldsmith's *She Stoops to Conquer.*

M

McFlimsey, Flora, heroine of *Nothing to Wear,* a popular satiric poem by William Allen Butler.

McLeod, Sir Keith, the hero of William Black's novel, *McLeod of Dare.*

McTeague, the hero of Frank Norris's novel of the same name, an uncouth dentist, slow and brutal.

Macbeth, thane of Cawdor, hero of Shakespeare's tragedy of that name.

Macduff, a Scottish chief, who finally slays Macbeth in battle.

MacIvor, Flora, the heroine of Scott's *Rob Roy.*

Mackellar, steward of the estate of the Master of Ballantrae, in Stevenson's novel of that name.

Mackenzie, a termagant widow, mother-in-law of Clive, in Thackeray's *Newcomes.*

Mackenzie, Sheila, a sensitive, unspoiled Scotch girl, heroine of William Black's *Princess of Thule.*

Malaprop, Mrs., a character in Sheridan's *The Rivals,* famed for her extraordinary verbal blunders.

Malavoglia, I., a Sicilian family of fisher folk, the subject of Giovanni Verga's Italian novel of that name.

Maleine, La Princesse, the ill-fated heroine of Maeterlinck's tragedy of that name.

Mancanou, Aurora and **Clotilde,** the heroines of George W. Cable's novel, *The Grandissimes.*

Manfred, the gloomy, solitary hero of Byron's tragedy of that name.

Marchioness, The, a little ill-used, half starved maid-servant of the Brasses in Dickens's *Old Curiosity Shop.*

Margaret, the heroine of Goethe's *Faust,* seduced by Faust.

Marlow, Young, the hero of Goldsmith's *She Stoops to Conquer.*

Marner, Silas, the central figure in George Eliot's novel of the same name.

Marsh, Meg, Jo, Beth and **Amy,** four sisters, the heroines of Miss Alcott's *Little Women.*

Mascarille, a valet introduced by Molière into several plays, *L'Étourdi, Le Dépit Amoureux,* and *Les Présieuses Ridicules.*

Mavering, Dan, the hero of Howells's *April Hopes,* who finds it difficult to meet the expectations of an overserious young woman.

Maxwell, Marcella, heroine of Mrs. Humphry Ward's *Marcella,* and its sequel, *Sir George Tressady.*

Meeber, Carrie, the heroine of Theodore Dreiser's *Sister Carrie,* type of young woman who, at all cost to herself and others, seeks to satisfy her physical comforts and love of luxury.

Meister, Wilhelm, the hero of Goethe's novel of that name.

Melema, Tito, the handsome and wily Greek, who marries the heroine of George Eliot's *Romola.*

Mélisande, the heroine of Maeterlinck's drama, *Pélleas et Mélisande.*

Melnotte, Claude, the hero of Bulwer's romantic play, *The Lady of Lyons.*

Mephistopheles, the devil in Goethe's *Faust.*

Mercutio, the witty and polished friend of Romeo, in Shakespeare's *Romeo and Juliet.*

Merrilees, Meg, a half crazy gypsy, who plays a prominent part in Scott's *Guy Mannering.*

Merton, Tommy, one of the two principal characters in a once very

popular juvenile work, by Thomas Day, *Sandford and Merton.*

Micawber, Wilkins, always "waiting for something to turn up," in Dickens's *David Copperfield.*

Mickelham, Dolly, the heroine of Anthony Hope's *Dolly Dialogues.*

Mignon, a mysterious young Italian girl, in Goethe's *Wilhelm Meister,* secretly in love with the hero.

Mildmay, Frank, the hero of Marryat's novel of the same name.

Miller, Daisy, the very American heroine of Henry James's novel of that name, whose high spirits and ignorance of conventions cause her to be cruelly misjudged.

Minnehaha, "Laughing Water," an Indian maiden, bride of Hiawatha, in Longfellow's poem.

Miranda, daughter of Prospero, loved by Ferdinand, in Shakespeare's *The Tempest.*

Miriam, one of the two heroines of Hawthorne's *Marble Faun,* who sees Donatello commit the crime which is the turning point of the story.

Montgomery, Ellen, the young heroine of a once very popular didactic novel by Susan Warner, *The Wide, Wide World.*

Mowgli, a sort of modern Romulus, being an Irish child abandoned and nurtured by a she-wolf; he is the hero of Kipling's *Jungle Books,* and is represented as understanding the speech and the characters of all the jungle folk, and being trained in "the Law of the Jungle."

Muller, Maud, a rustic maiden, heroine of Whittier's well-known poem of that name.

Mulvaney, Terence, one of the "Three Musketeers" in Kipling's wonderful stories of the Indian "Tommies."

N

Nana, a Parisian courtezan, heroine of Zola's novel of that name.

Nemo, Captain, the mysterious commander of the submarine vessel, the *Nautilus,* in Jules Verne's *Twenty Thousand Leagues under the Sea,* and the *Mysterious Island* series.

Nevers, Lucile de, heroine of Owen Meredith's romantic novel in verse, *Lucile.*

Newcome, Clive, the hero of Thackeray's *The Newcomes,* son of the Colonel.

Newcome, Colonel, a prominent character in *The Newcomes,* distinguished for moral beauty of his life.

Newcome, Ethel, the beautiful cousin, and finally wife, of Clive Newcome.

Nickleby, Mrs., an irrelevant and credulous person in Dickens's *Nicholas Nickleby.*

Nickleby, Nicholas, the hero of Dickens's novel of that name.

North, Violet, heroine of William Black's *Madcap Violet.*

Nydia, a blind flower girl in Bulwer's *Last Days of Pompeii.*

O

Oak, Gabriel, the hero of Hardy's *Far from the Madding Crowd;* he marries Bathsheba Everdene after her mad lover, Boldwood, kills her unworthy lover, Sergent Troy.

Oldbuck, Jonathan, connoisseur and collector, who gives his name to Scott's *Antiquary.*

Old Mortality, a gravestone cleaner, who gives his name to Scott's *Old Mortality.*

Olifaunt, Nigel, hero of Scott's *Fortunes of Nigel.*

O'Malley, Charles, an Irish Dragoon, hero of Charles Lever's novel of that name.

O'More, Rory, the hero of Samuel Lover's novel of that name; also of a song by the same author.

Ophelia, daughter of Polonius, in love with Hamlet, in Shakespeare's *Hamlet.*

Orlando, the nephew of Charlemagne, hero of Ariosto's *Orlando Furioso.*

Orlando, lover of Rosalind, in Shakespeare's *As You Like It.*

Osborne, George, marries Amelia Sedley, in Thackeray's *Vanity Fair.*

Othello, a Moor of Venice, hero of Shakespeare's tragedy of that name.

O'Trigger, an Irish adventurer in Sheridan's *The Rivals.*

P

Page, Mrs., a character in Shakespeare's *Merry Wives of Windsor,* with whom Falstaff is in love, and who joins with Mrs. Ford in a plot to dupe and disgrace him.

Pamela, the virtuous heroine of Richardson's novel of that name.

Pan, Peter, the little boy who did not wish to grow up, the hero of Barrie's fairy play of that name.

Pangloss. 1, an optimistic philosopher in Voltaire's *Candide.* 2. a pedant in Coleman's *The Heir at Law.*

Pantagruel, son of Gargantua; the learned and mighty-stomached hero of Rabelais's satire of that name.

Panurge, the real hero of Rabelais's *Pantagruel;* an arrant rogue, a drunkard, a coward, and a libertine.

Panza, Sancho, the esquire of Don Quixote, type of vulgar common sense without imagination.

Parigot, Berzelius Nibbedard, the lovable but eccentric wanderer, who fills the title rôle in William J. Locke's *Beloved Vagabond.*

Partington, Mrs., a sort of second Mrs. Malaprop, created by the American humorist, B. P. Shillaber, and noted for her misuse of words.

Pascarel, an Italian strolling player, hero of Ouida's novel of that name.

Pasmer, Alice, the heroine of Mr. Howells's *April Hopes,* who almost misses happiness through trying to live up to impossible ideals.

Patoff, Paul, the hero of Marion Crawford's story of modern Constantinople, which bears his name.

Pauline, the heroine of Bulwer's play, *The Lady of Lyons.*

Pecksniff, architect and hypocrite, father of Mercy, in Dickens's *Martin Chuzzlewit.*

Peebles, Peter, drunkard and liar in Scott's *Red Gauntlet.*

Pélleas, hero of Maeterlinck's play, *Pélleas et Mélisande.*

Pendennis, Arthur, the clever and somewhat conceited hero of Thackeray's *Pendennis.*

Pendennis, Major, Arthur's uncle, elderly clubman and man of fashion, with a keen knowledge of human nature, in Thackeray's *Pendennis.*

Perdita, the sweetheart of Florizel in Shakespeare's *Winter's Tale.*

Petruchio, the madcap husband of Katherine in Shakespeare's *Taming of the Shrew.*

Pickle, Peregrine, the dissolute hero of Smollett's *Adventures of Peregrine Pickle.*

Pickwick, Samuel, the hero of Dickens's *Pickwick Papers,* and founder of the Pickwick Club.

Pinson, Mimi, one of the heroines of Murger's *Vie de Bohême.*

Pippa, heroine of Browning's poem, *Pippa Passes.*

Pistol, Ancient, a swaggering, loud-mouthed, rascally follower of Falstaff in Shakespeare's *Henry IV* and *Merry Wives of Windsor.*

Polonius, lord chamberlain of the king, and father of Ophelia, in Shakespeare's *Hamlet.*

Porthos, one of the four heroes of Dumas's *Three Musketeers,* distinguished for his physical prowess, his vanity and his simple-minded loyalty.

Portia, the heroine of Shakespeare's *Merchant of Venice.*

Portman, Belinda, the heroine of Miss Edgeworth's *Belinda.*

Power, Paula, the heroine of Hardy's *The Laodicean.*

Primrose, Doctor, the noble-minded vicar in Goldsmith's *Vicar of Wakefield.*

Primrose, Olivia, the well-beloved and unfortunate daughter of Doctor Primrose, heroine of *The Vicar of Wakefield.*

Priscilla, half-sister of Zenobia, and one of the two heroines of Hawthorne's *Blithedale Romance.*

Proudie, Bishop, the henpecked bishop in Trollope's *Barchester Towers.*

Proudie, Mrs., wife of the above, whose amazonian personality for a long time dominates those about her, and who cannot survive her final loss of authority.

Prynne, Hester, the heroine of Hawthorne's *Scarlet Letter.*

Pyecroft, warrant officer, who figures more or less prominently in several of Kipling's later stories.

Pyncheon, Phoebe, the heroine of Hawthorne's *House of the Seven Gables.*

Q

Quasimodo, a monster of deformity in Victor Hugo's *Notre-Dame de Paris.*

Quatermain, Allen, hero of Rider Haggard's melodramatic adventure stories, *King Solomon's Mines* and *Allen Quatermain.*

Quex, Lord, the hero of Pinero's play, *The Gay Lord Quex.*

Quickly, Mrs., hostess of the East-cheap tavern in Shakespeare's *Henry IV.*

Quilp, a vicious, ill-tempered dwarf in Dickens's *Old Curiosity Shop.*

Quisante, type of charlatan, and political adventurer, hero of Anthony Hope's novel of that name.

R

Raffles, gentleman burglar, hero of a long series of stories by E. W. Hornung.

Random, Roderick, the sensual, unfeeling hero of Smollett's novel of that name.

Rasselas, prince of Abyssinia, the hero of Dr. Johnson's novel of that name.

Rassendyll, Rudolf, the venturesome hero of Anthony Hope's *Prisoner of Zenda* and its sequel, *Rupert of Hentzau.*

Ravenswood, the haughty hero of Scott's *Bride of Lammermoor.*

Regan, the second daughter of Lear in Shakespeare's *King Lear.*

Remus, Uncle, a shrewd and humorous old negro, a product of the plantation system, with a store of beast fables that constitute Joel Chandler Harris's *Uncle Remus's Stories.*

Richard Yea-and-Nay, hero of Maurice Hewlett's romantic novel of that name, based upon the life of Richard the Lion-hearted, yet treated with a freedom and individuality that make him essentially a fictitious character.

Richmond, Harry, the hero of Meredith's novel of that name.

Robarts, Amy, one of Trollope's heroines, whose chequered love and marriage with Lord Lufton are related in *Framley Parsonage.*

Rochester, the sombre and moody hero of Charlotte Brontë's novel, *Jane Eyre.*

Romeo, a Montague, beloved of Juliet, in Shakespeare's *Romeo and Juliet.*

Romola, the heroine of George Eliot's Florentine novel of that name.

Rosalind, heroine of Shakespeare's *As You Like It.*

Rougon-Macquart Family, a French family under the Second Empire, whose many branches, all tainted with some abnormality inherited from a common ancestress, Adelaide Fouque, form the theme of the twenty volumes by Emile Zola, known as the *Rougon-Macquart Series.*

Roumestan, Numa, hero of Daudet's novel of that name, considered to be the best of all that author's attempts to picture the imaginative, extravagant, unconsciously mendacious nature of the Provençal.

Rudge, Barnaby, a half-witted youth, who fills the title rôle of Dickens's *Barnaby Rudge.*

S

Salammbô, the heroine of Flaubert's realistic historical novel of ancient Carthage, which bears her name.

Sandford, one of the heroes of Thomas Day's once popular juvenile story, *Sandford and Merton.*

Santuzza, the heroine of Verga's Sicilian story, *Cavalleria Rusticana,* and also of his play of the same name, and of Mascagni's opera based upon it.

Sawyer, Tom, the hero of Mark Twain's story of the same name.

Scheherezade, Queen, the wife of the Sultan, who tells the tales of the *Arabian Nights.*

Schlimihl, Peter, hero of Chamisso's tale of that name, who sells his shadow to the devil.

Scrooge, Ebenezer, "a tight-fisted hand at the grind-stone;" the miser who in Dickens's *Christmas Carol* is reformed by the three ghosts of Christmas, Past, Present and Future.

Sedley, Amelia, a character in Thackeray's *Vanity Fair,* representing virtue without intellect, as Becky Sharp represents intellect without virtue.

Shadd, Dinah, a character that occurs in several early stories by Kipling; she marries Terence Mulvaney.

Shandy, Tristam, the nominal hero of Sterne's novel of that name.

Sharp, Rebecca, the clever, scheming heroine of Thackeray's *Vanity Fair.*

Shylock, the vindictive Jew, who demands his "pound of flesh" in Shakespeare's *Merchant of Venice.*

Simple, Peter, the hero of Marryat's novel of that name.

Skariatine, Boris, Michaelovitch, Count, the hero of Marion Crawford's little masterpiece, *A Cigarette Maker's Romance.*

Skimpole, Harold, a character in Dickens's *Bleak House,* said to be drawn from Leigh Hunt.

Sneerwell, Lady, a gossip and backbiter in Sheridan's *School for Scandal.*

Snodgrass, Augustus, a poetic nonentity, and one of the members of the Pickwick Club, in Dickens's *Pickwick Papers.*

Snow, Lucy, the heroine of Charlotte Brontë's *Vilette.*

Sound, Sylvester, the hero of Henry Cockton's novel of that name, whose somnambulistic habits lead him into many extraordinary predicaments.

Spenlow, Dora, David's child-wife in Dickens's *David Copperfield.*

Squeers, Wackford, the brutal master of the Dothboys Hall, in Dickens's *Nicholas Nickleby.*

St. Clair, Eva, the little mistress and child friend of Uncle Tom, whose death forms one of the famous scenes in Mrs. Stowe's *Uncle Tom's Cabin.*

Sterling, Peter, an ideal of American statesmanship, hero of Paul Leicester Ford's *Honorable Peter Sterling.*

Steyne, Marquis of, the unscrupulous and profligate old nobleman, whom Rawdon Crawley, on returning from the debtors' prison, finds alone with Becky in Thackeray's *Vanity Fair.*

Svengali, the mysterious and spider-like villain in Du Maurier's *Trilby,* who hypnotizes the heroine and in that state teaches her to sing.

Swancourt, Elfride, the heroine of Hardy's *A Pair of Blue Eyes.*

Swiveller, Dick, a gay, rattle-pated fellow, in Dickens's *Old Curiosity Shop.*

Syntax, Doctor, the hero of a once popular work, by William Combe, *The Tour of Doctor Syntax in search of the Picturesque.*

T

Taffy, one of the three "Mousquetaires of the Brush," in Du Maurier's *Trilby.*

Tanqueray, Paula, the heroine of Pinero's Drama, *The Second Mrs. Tanqueray.*

Tartarin, the extraordinary and inimitable hero of Daudet's *Tartarin sur les Alpes,* and its sequels.

Tartuffe, the hypocritical hero of Molière's play of that name.

Teazle, Lady, the coquettish, teasing, and rashly foolish wife of Sir Peter Teazle, in Sheridan's *School for Scandal.*

Thaïs, a beautiful Greek courtezan of the Alexandrine period, whose conversion to Christianity forms the theme of Anatole France's novel of that name, and of the play taken from it.

Titania, Queen of the fairies in Shakespeare's *Midsummer Night's Dream.*

Tom, Uncle, the venerable, big-hearted and loyal slave, hero of Mrs. Stowe's prose epic of slavery, *Uncle Tom's Cabin.*

Topsy, an ignorant and incorrigible young slave-girl in Mrs. Stowe's *Uncle Tom's Cabin.*

Trilby, the heroine of Du Maurier's novel of hypnotism that bears her name.

Trotwood, Betsy, Copperfield's kind, eccentric aunt, in Dickens's *David Copperfield.*

Tulliver, Maggie, the weak, yielding heroine of George Eliot's *Mill on the Floss.*

Tupman, Tracy, short and fat and fond of the fair sex, member of the Pickwick Club in Dickens's *Pickwick Papers.*

Turridu, the hero of Verga's Sicilian story, *Cavalleria Rusticana,* and of Mascagni's opera of the same name.

Turveydrop, dancing master and "model of deportment" in Dickens's *Bleak House.*

Twist, Oliver, a charity boy, hero of Dickens's novel of that name.

U

Una, the personification of Truth, in Spenser's *Faëry Queen.*

Uncas, a Mohican chief in Cooper's *Last of the Mohicans.*

V

Valjean, Jean, a respectable and honest citizen, driven to crime by the injustice of society, leading figure in Hugo's *Les Miserables.*

Van Winkle, Rip, a legendary character of the Hudson Valley, whose bibulous good nature and twenty

years' sleep in the mountains are made famous by Irving's story of that name.

Varden, Dolly, the heroine of Dickens's *Barnaby Rudge.*

Vathek, the hero of Beckford's Oriental romance of that name, endowed with great gifts, but possessed of violent passions and inordinate ambition.

Venner, Elsie, the heroine of a pathological novel by Holmes, turning on the inherited effects of a snake-bite suffered by her mother.

Vernon, Die, the heroine of Scott's *Rob Roy.*

Viola, in love with Orsino, in Shakespeare's *Twelfth Night.*

Vivian, mistress of Merlin, in that one of Tennyson's Idylls of the King that bears her name.

Vox, Valentine, the hero of Henry Cockton's novel of that name, whose powers of ventriloquism enable him to play many pranks of an extraordinary kind.

Vye, Eustacia, the heroine of Hardy's *Return of the Native.*

W

Wadman, Widow, in Sterne's *Tristram Shandy,* tries to marry Uncle Toby.

Ward, John, a minister, hero of Margaret Deland's novel, *John Ward, Preacher.*

Warrington, George, the cynical but kind-hearted friend of Arthur in Thackeray's *Pendennis.*

Waters, Esther, the scullery maid, through whose eyes we see the household of an English racing squire; heroine of George Moore's novel of that name.

Weller, Sam, son of Tony, Mr. Pickwick's humorous servant in Dickens's *Pickwick Papers.*

West, Caleb, the hero of Hopkinson Smith's *Caleb West, Master Diver.*

Western, Sophia, the heroine of Fielding's *Tom Jones.*

White, Gertrude, a young actress, heroine of William Black's *McLeod of Dare.*

White, Selma, a woman whose ambitions and energy are out of proportion to her ability and intellectual attainments; heroine of Robert Grant's *Unleavened Bread.*

Wickfield, Agnes, the lovable heroine of Dickens's *David Copperfield,* and David's second wife.

Wilson, Pudd'nhead, the hero of Mark Twain's novel of that name, regarded by his fellow townsmen as a "pudd'nhead" for having said that if he owned half of a certain dog, "he would kill his half."

Winkle, Nathaniel, a member of the Pickwick Club, in Dickens's *Pickwick Papers.*

Woodhouse, Emma, the heroine of Miss Austen's novel, *Emma,* who marries Mr. Knightley.

Y

Yeobright, Clym, a character in Hardy's *Return of the Native,* who marries Eustacia Vye.

Z

Zadig, a wealthy young Babylonian, hero of Voltaire's romance of that name, which is intended to show that destiny is beyond human control.

Zanoni, an alchemist, the hero of Bulwer's novel of that name.

Zenobia, one of the two heroines of Hawthorne's *Blithedale Romance.*

Zuleika, the heroine of Byron's poem, *The Bride of Abydos.*

FAMILIAR ALLUSIONS.

NAMES OF PERSONS, PLACES, PICTURES, BUILDINGS, STREETS AND MONUMENTS; ALSO WORDS, PHRASES, ETC., FREQUENTLY USED IN LITERATURE AND CONVERSATION.

Compiled by **J. A. JOFFE, A.M.**

Consulting Expert to the Congressional Library.

A

Abaft'. (Nautical.) Behind the object mentioned, as "Abaft the wheel!"

Abbé. An ecclesiastic devoted to literary or scientific pursuits.

Abbot of Joy. A chief of revels, in the old French towns.

Abbot of Misrule. In the Middle Ages, a master of revelry. In Scotland he was called the Master of Reason.

Abdērite. A scoffer; from Abdēra, where Democritus lived.

Abeam'. Let a line be drawn at right angles to the vertical plane, through the ship's keel and passing through the center of the side. A point within the right angle made by the ship's keel, going in an opposite direction to this line.

Abraham's Bosom. The rest of the blessed dead. (Luke xiv. 22.)

Ab'yla. One of the "Pillars of Hercules" at the entrance to the Mediterranean: Calpē being the other.

Academics. The disciples of Plato, so called from the academy.

Academy. (Academia.) A gymnasium in the suburbs of Athens, where Plato founded his school, 368 B.C. The Academy (as a philosophic school) was divided into the OLD (by Plato and his disciples); the MIDDLE (by Arcesiláus), and the NEW (by Carneades).

Academy, The French. (*Académie Française.*) One of the five academies constituting the French Institute; founded by Richelieu in 1635 and reconstituted in 1820. It deals with the French language, and consists of 40 members, who are popularly called "the Immortals."

Acadia. The Indian name of Nova Scotia.

Adams and Liberty. Patriotic American song, by R. T. Paine, Jr.

Adam's Apple. Caused by a piece of forbidden fruit sticking there.

Admirable Crichton, The. James Crichton; a Scotch prodigy of the sixteenth century. Hence a person of great accomplishments.

Admiral. English admirals were of three kinds according to the color of their flag. ADMIRAL OF THE BLUE, kept the rear in a fight; ADMIRAL OF THE RED, the center; ADMIRAL OF THE WHITE, the van.

Admiral. In the American navy an officer of the highest rank. There have, however, been only three Admirals in the history of the navy: David G. Farragut (1801–1870), Andrew H. Foote (1806–1803), and George Dewey (1837–).

Æneid. Vergil's epic poem, of which Ænéas is the hero.

Ages. According to Hesiod there were five ages in the world: the GOLDEN, the SILVER, the BRAZEN, the HEROIC, and the IRON.

Agnus Dei. (Lat.) The Lamb of God. A cake stamped with the figure of a lamb, given out by the Pope on the Sunday after Easter.

Alabama. A Confederate privateer built in England, and commanded by Capt. Semmes. After great depredations on American commerce she was sunk by the *Kearsarge*, June 19, 1864.

Aladdin's Window (To finish).

To try to finish something left unfinished by a great man. One window in Aladdin's palace was left for the Sultan to finish, but his treasure gave out, before he could do so.

Albany Regency. Nickname of a set of able Democratic politicians, 60 years ago, at Albany, N. Y.

Albino. Person with unusually white skin and hair, and pink or red eyes.

Albion. England.

Aldine Press. Founded by Aldus Manutius, at Venice, 1494. Hence came the famous *Aldine* editions.

Alexandrian Library. Founded by Ptolemy Soter, at Alexandria, Egypt, it was burned 47 B.C., and destroyed 390 or 391. In Cæsar's time it contained nearly 700,000 volumes.

Alexandrine Age. From 323 B.C. to the end of the sixth century A.D., when Alexandria was the seat of the highest culture.

Alhambra. (Arab., "The red.") Palace and fortress of the Moors at Granada, Spain.

All Souls' Day. Day of prayer for the souls in Purgatory. November 2nd.

Allah. ("The God.") Arabic name of God.

Almack's. Once a famous London assembly-room where balls were given of the most exclusive, aristocratic character.

Almighty Dollar. A phrase from Irving's *Creole Village*.

Alsatia. The Whitefriars (London) refuge for debtors and criminals.

Alto-Relievo. (It., High relief.) Figures in marble, etc., cut so as to project one-half or more from the tablet.

Ambrosia. The food of the gods.

Amuck, To run amuck. Run foul of. From Malay, *amoq*, "frantically rushing about and killing indiscriminately."

Anacreontics. Verses in praise of love or wine, after Anacreon.

Ancient Régime. The French régime before the Revolution of 1789.

Andersonville Prison. In Georgia. Union soldiers were confined there during the Civil War of the United States.

An'gelus, The. A prayer to the Virgin, recited thrice a day.

Angling, The Father of. Izaak Walton, author of *The Compleat Angler*.

Annunciation, Day of. Festival, celebrated March 25th, the day the angel announced to the Virgin that she would bear Our Lord.

Annus Mirabilis. (Lat., Wonderful Year.) 1666, in which the plague, the fire of London, and the English victory over the Dutch occurred.

Anthony, Saint. ST. ANTHONY'S FIRE. Erysipelas.

Antonīnus, The Wall of. Turf entrenchment across Scotland from the Clyde to the Frith of Forth, built by the Romans, 140.

Apollo Belvedere. A marble statue of Apollo in the Belvedere Gallery of the Vatican at Rome.

Appian Way. Oldest Roman military road, from Rome to Capua.

Apples of Sodom. Lovely fruit, but full of ashes within.

Arabesque. (Fr.) Moorish (Arabic) style or patterns in decoration.

Arcā'dian. A shepherd; rustic or pastoral. So called from the Arcádia, a pastoral region in Peloponnesus, Greece.

Arch of Triumph. At the west end of the Champs Elysées, Paris, 116 ft. high, 145 wide. Begun by Napoleon.

Arctic, The. A Collins steamer, sunk, with great loss of life, in 1854.

Argo. The ship in which Jason sailed to Colchis in quest of the golden fleece.

Argonauts. The heroes who sailed in the ship Argo.

Argus-eyed. Extremely watchful. Juno, jealous of Io, had her watched by the hundred-eyed monster, Argus.

Arians. The followers of Arius, who maintained that the Father and Son are distinct beings.

Armada, The Spanish. The fleet of 130 large ships sent by Philip of Spain, in 1588, to conquer England.

Artesian Well. From being first dug in Artois (Lat. *artē'sium*), France.

Aryans. The parents of the Indo-European peoples.

Astor Library. Founded by J. J. Astor, now part of the New York Public Library.

Athens, The Modern. 1. Edinburgh. 2. Boston. ATHENS OF AMERICA, or OF THE NEW WORLD, THE. Boston.

Augustan Age. The palm period of a literature; the best days of Roman literature; being under Augustus.

Auld Reekie (Old Smoky). Edinburgh, Scotland.

Avalon. Burial place of King Arthur; said to be Glastonbury.

B

Babylonish Captivity. The seventy years' captivity of the Jews at Babylon, 608-538 B.C.

Baconian Philosophy. The inductive philosophy of Lord Bacon.

Balmoral Castle. Queen Victoria's castle in Scotland.

Bank of England. In Threadneedle Street, London. Founded 1694. Sometimes called "The Old Lady of Threadneedle Street."

Bard of Avon. Shakespeare, who was born at Stratford-on-Avon.

Barleycorn, John. Malt liquor.

Barmecide's Feast. An illusion or sham. Barmecide asked a starving beggar to dinner, and set empty dishes before him. (*Arabian Nights.*)

Barnburners. The radical Democrats of New York State, from the farmer who burned his barn to destroy the rats.

Basilisk. A serpent or dragon supposed to be able to "look people dead."

Basso-Relievo. (It., Low relief.) Figures cut on marble, etc., projecting a little.

Bastille. French prison and fortress, destroyed by the mob, July 14, 1789. The date (July 14th) has been taken as the anniversary day of the present French Republic.

Battle of the Books. A satire by Swift on the comparative merits of ancient and modern literature.

Battery, The. A park in New York City at the southernmost extremity of Manhattan Island. Area 21 acres.

Bayou State, The. Mississippi.

Beacon Street. An aristocratic residence street of Boston linking with the Back Bay, Commonwealth Avenue and others of more recent fame.

Beauty and the Beast. A fairy tale. Beauty lives with the Beast to save her father's life. Beast, disenchanted by love, is made a handsome prince.

Bedlam. (Corruption of Bethlehem.) A lunatic asylum. (See Dictionary proper.)

Beelzebub. (Lord of flies.) A Philistine deity.

Begging the question. Assuming as true what is still to be proven.

Belgravia. A fashionable quarter of London.

Belle France, La. (Fr., Fair France.) A general name of France.

Bell the Cat. A wise mouse proposed that a bell should be hung on the cat's neck to warn the mice of her coming; a young mouse inquired, "Who will put the bell on?"

Bell, The Passing. Rung formerly when persons were dying.

Benicia Boy. John C. Heenan, the American pugilist, born at Benicia, Cal.

Bess, Good Queen. Queen Elizabeth.

Bibliothèque Nationale. (Fr., National Library.) At Paris, containing over 1,000,000 books, 150,000 manuscripts, etc.

Billingsgate. Coarse language, such as is used by the fishwomen of Billingsgate, the London fish market.

Black Death. A contagious, putrid typhus, which desolated Europe, Asia and Africa in the 14th century.

Black Friday. Sept. 26, 1869; financial panic in Wall street, New York.

Black Hole. Dark cell in Calcutta prison where Surajah Dowlah shut up 146 British soldiers; only twenty-three survived till morning (1756).

Black Prince. Edward, Prince of Wales, son of Edward III.

Black Republicans. The Republican party in the United States, from their opposition to the extension of negro (black) slavery.

Blarney Stone. In Blarney Castle near Cork, Ireland. Supposed to impart a flowing tongue to whoever kisses it.

Bluebeard. A wife-killing tyrant; a sort of Henry VIII.

Bluegrass State, The. Kentucky, where the grass is abundant.

Blue Hen State, The. Delaware. Derived from the blue hens used by Col. Caldwell of a famous Delaware regiment, during the Revolution.

Blue Laws. A nickname of early severe New England statutes.

Blue Stocking. A female pedant, or bookish woman.

Bohemian. A free and easy going artist or literary man, usually poor.

Bois de Bologne. A Paris wood, famous as a promenade place.

Border, The. The frontiers of England and Scotland.

Border States. Maryland, Delaware, Virginia, Kentucky, Missouri.

Boulevard. In Paris, a wide street or promenade.

Bourgeoisie. The French middle class.

Bourse. The Paris Stock Exchange.

Bow Bells. A set of bells in St. Mary-le-Bow Church, London. A person "born within sound of Bow Bells" is a Cockney.

Bowery, The. A New York thoroughfare on the lower East Side.

Boycott. To refuse to have anything to do with another. Capt. Boycott, an Irish landlord, was the first so treated, in 1881.

Brandy Nan. A nickname of Queen Anne of England.

Breeches Bible. An edition in which aprons, in Genesis iii, 7, is rendered "breeches."

Bride of the Sea. Venice, from the Doge's "Wedding the Sea" by casting a ring into the Adriatic.

Bridge of Sighs. In Venice, Italy. Connects Doge's palace and state prisons. The condemned passed over it to be executed. In New York City. Between the Criminal Court Building and the Tombs.

British Museum. A famous library and museum of London.

Broadway. The principal business and theatre street of New York City.

Bronx Park, The. A park in New York City, north of E. 182nd Street and east of Southern Boulevard. It contains the Zoölogical Garden and covers 719.12 acres.

Brook Farm. A socialistic community founded at West Roxbury, Mass., 1841, to carry out the idea of Fourierism.

Brother Jonathan. America; an American. Said to be derived from Jonathan Trumbull, Governor of Connecticut, of whom Washington would say, "We must consult Brother Jonathan."

Buncombe or **Bunkum.** Clap-trap eloquence. Said to come from Buncombe Co., in North Carolina. A North Carolina member said he was only "talking for Buncombe," not for the House.

Bunker Hill Monument. A granite obelisk on Bunker (once Breed's) Hill, Charlestown, Mass., marking the site of the battle between the British and Americans, June 17, 1775.

C

Cachet, Lettre de. (Fr., Letter under seal). Blank warrant with the French King's seal, to free from, or imprison in, the Bastille, without trial.

Ça ira (Pr. sä-ērä', Fr., It will go on). The earliest popular song of the French Revolution, 1789.

Caledonia. A former, now poetical, name for Scotland.

Campagna. (It., The country.) The plain around the city of Rome.

Carbonari. An Italian secret political society, which spread to France, in 1820.

Carmagnole. A republican song and dance of the first French Revolution.

Cartesian Philosophy. (Descartes, Latinized *Cartesius.*) "I think, therefore I exist."

Castle Garden. The former landing-place of emigrants, New York City.

Catacombs. The subterranean burial places in Alexandria, Egypt; in Rome, used by the early Christians; also in Paris, Naples and elsewhere.

Cavaliere Servente. The escort of a married woman.

Cecil'ia, Saint. A Roman Christian martyr; patroness of music.

Celestial Empire. China; alluding to the "Heavenly Dynasty" of her emperors.

Central Park. The great park of New York City, containing 843 acres.

Champs de Mars. A field in Paris for military maneuvers.

Champs Elysées. A promenade in Paris, 1¼ miles long.

Charter Oak. A tree in Hartford, Conn., in which the Colonial Charter was secreted in 1687. The oak was blown down in 1856.

Chauvinism. Narrow-minded braggart patriotism; from Chauvin, a character in Scribe's *Soldat Laboureur.*

Cheapside. A great and crowded London thoroughfare.

Chestnut Street. The fashionable street of Philadelphia, Pa.

Chiltern Hundreds, To accept the. To resign one's seat in Parliament. An English member of Parliament

resigns his seat by taking office. Stewardship of the Chiltern Hundreds is a sinecure for this purpose.

Christ Church. The largest college in the University of Oxford.

Cid, The. (Sp., Lord, chief.) Don Roderigo Diaz, Count of Bivar; Spanish hero.

Cincinnati, The. Society of American Revolutionary Officers.

Citizen King, The. Louis Philippe of France (1830-1849).

Cockaigne, Land of. An imaginary land of pleasure and laziness; London.

Colossus of Rhodes. The bronze statue of Apollo, at Rhodes, 126 feet high.

Columbia. Poetical name of the United States, from Columbus.

Column of Vendome. (**Colonne Vendôme.**) Stone pillar in Paris, erected by Napoleon; razed by the Commune in 1871.

Confederate States. The 11 States which seceded in 1861, viz., Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, Virginia.

Congressional Library. At Washington, the largest in the Western Hemisphere, containing 1,702,685 printed books in 1909.

Consols. (Abbr. from consolidated annuities.) English public securities bearing 3 per cent.

Copperheads. Northern sympathizers with the South in the American Civil War.

Corncrackers, The. Kentuckians.

Corso. (It., The Course.) The principal thoroughfare of Rome.

Crapaud (Fr., a toad) **Johnny.** A Frenchman. The ancient device of French royalty was three toads (subsequently the *fleur de lys*).

Crédit Mobilier. A company authorized to do a stock-jobbing business. The American C. M. in connection with the Pacific railroads was famous in 1873.

Creole State, The. Louisiana.

Crocodile Tears. Hypocritical grief. The crocodile was fabled to weep as it ate its victim.

Cumberland. A United States vessel sunk by the Confederate ram "Merrimac" in Hampton Roads, March 8, 1862. She went down with colors flying, firing a broadside while sinking.

Curfew Bell. A bell rung at sunset in the time of William I. in England, to order fires and candles to be put out; now rung at 9 P. M. in some places.

D

Dăm'oclēs' Sword. Presentiment of evil. Dionysius the Elder, tyrant of Syracuse, invited his flatterer Damocles to a splendid feast, but hung over his head a sword dangling by a single hair.

Darby and Joan. An affectionate married couple. From a ballad.

Dark and Bloody Ground, The. Kentucky, that being its significance in Indian.

Dartmoor Prison, in Devonshire, England. A prison of war.

Darwinian Theory. A theory proposed by Charles Darwin in his *Origin of Species:* that different species came from one or a few original forms, present differences being the result of evolution and natural selection.

De Profundis (Lat., Out of the depths). The first two words of the Latin version of the 130th Psalm. Sung at burials.

Debatable Ground. Land on the western border of Scotland, once claimed by both Scotland and England.

Defender of the Faith. Title given by Pope Leo X. to Henry VIII. of England, for his pamphlet against Luther.

Diamond State, The. Delaware.

Dies Iræ. (Lat., Day of wrath.) First two words of a celebrated mediæval hymn by Thomas of Celáno.

Directory, The French. By the constitution of 1795 the executive power was vested in five directors. It lasted four years only.

Dixie. The Land of Dixie. The Southern States, from Mason and Dixon's line.

Doctors' Commons. Where the Ecclesiastical Court sat in London.

Doctrinaire. An impractical political theorist. The name was first applied to the French Constitutional Monarchists, of whom Guizot was one.

Doe, John. Fictitious plaintiff in ejectment; Doe versus Roe.

Donnybrook Fair. A once celebrated annual fair near Dublin.

Doomsday Book. A book embodying the results of a census and survey of all English estates in the reign of William the Conqueror.

Douay Bible, The. The English Bible authorized by the Roman Catholic Church. First published at Douay, France, 1609.

Downing Street, in London. The official residence of the Prime Ministers has been situated there since the time of Sir Robert Walpole.

Drachenfels (Germ., Dragon's Rock). A castle on a mountain of the same name, high above the Rhine, not far from Bonn.

Drury Lane Theater. A London playhouse, opened in 1668.

Dunciad. A satire on Dunces by Pope. Colley Cibber is the hero.

Dying Gladiator, The. An antique statue, now standing in the Capitol at Rome. Properly, The Dying Gaul.

E

Eastern States, The. Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, and Connecticut.

Ec'ce Hŏ'mō. (Lat., Behold the man.) Paintings by Corregio, Titian, Van Dyck and others, representing the Saviour crowned with thorns.

École Polytechnique. (Fr., Polytechnic School.) A school in Paris, whose graduates receive places in the public service.

El Dorā'do. (Sp., The Golden.) General name for a wealthy country.

Elephant, Seeing the. Seeing the world; "life."

Elgin Marbles. A collection of Greek sculptures (mainly from the Athenian Parthenon), made by Lord Elgin; now in British Museum.

El'zevir. Any book printed by the family of Dutch printers, Elzevir, in the sixteenth and seventeenth centuries.

Escō'rial, The. Granite palace and mausoleum near Madrid.

Eternal City, The. Rome.

Eulenspiegel, Tyl. Hero of a German story; a vagrant Brunswicker who cuts up all sorts of pranks.

Eurē'ka. (Gr., I have found it.) A saying attributed to Archimedes when he discovered the way to test the purity of Hiero's crown.

Evangelists, Symbols of the. MATTHEW has a scroll before him and holds a pen. MARK sits writing, with a winged lion by his side. LUKE has a pen and scroll; near him is an ox. JOHN is a young man behind whom is an eagle.

Exclusion, Bill of. A bill which passed the English Commons in 1679, proposing to exclude the Duke of York (afterwards James II.) from the throne, because he was a Roman Catholic.

F

Fabian Policy. A policy of delay, such as was pursued by Q. Fabius Maximus, called *Cunctā'tor,* "The Delayer."

Fabius, The American. George Washington, from the above.

Faëry Queen. A rhymed romance of Edmund Spenser, written 1590–6.

Fairmount Park, in Philadelphia, contains nearly 3,000 acres. It was the site of the Centennial Exhibition of 1876.

Fainéants, Les Rois. (Fr., the Do-nothing Kings.) Nicknames of the last kings of the Merovingian dynasty in France.

Falernian. A celebrated ancient Italian wine made at Falernum.

Faneuil Hall, in Boston, Mass., built in 1742. Revolutionary orators frequently addressed public meetings in it.

Farmer George. George III. of England; so called from his bluff manners, thriftiness, and love of agriculture.

Fā'ta Morgā'na. A mirage often observed in the Straits of Messina.

Fathers of the Latin Church. Ambrose, of Milan; Augustine, St. Bernard, of France; Hilary, Jerome and Lactantius.

Faubourg St. Antoine. The part of Paris in which the workingmen live. Once the scene of many insurrections and riots.

Faubourg St. Germain. The quarter of Paris, where the houses of the aristocracy and old nobility are.

Fenians. A society of Irishmen or-

ganized in the United States in 1857 to make Ireland a republic.

Field of the Cloth of Gold. A plain in France where Francis I. met Henry VIII.; so called from the magnificent display made.

Fifth Avenue. A fashionable residence street in New York City.

Fighting Joe. The American general Joseph E. Hooker.

First Gentleman of Europe. George IV. of England. (1820–30.)

Five Points. A locality in lower New York, once famous as the abode of poverty and crime.

Flagellants. Religious fanatics of the thirteenth and fourteenth centuries, who went about bare to the waist and scourging themselves.

Fleet, The. A famous London prison, in disuse since 1845.

Flower State, The. Florida.

Flowery Kingdom, The. China, where flowers are abundant.

Flying Dutchman. A spectre ship seen, in bad weather, about the Cape of Good Hope and supposed to presage bad luck.

Fort Sumter. In the harbor of Charleston, S. C. Here was done the first fighting in the Civil War of the United States.

Fourierism. A system of communism proposed by Charles Fourier. The world was to be divided into "phalansteries" of 400 families, which were to live and work in common.

Freesoilers, The. Members of the Free-soil party (in the United States) which opposed the extension of slavery into the Territories.

Freshman. A student in his first year at college.

Funk, Peter. A mock auction; a person employed at auction sales in making bids in collusion with the owner of the property to be sold.

G

Gadshill. Residence of Charles Dickens, near Rochester, in Kent, England; famous for Falstaff's highway robbery.

Gendarme of Europe, The. Tsar Nicholas I. of Russia (1825–1855).

Genre Painting. One representing domestic, rural, ordinary scenes.

George, St., and the Dragon. St. George, the patron saint of England, is said to have slain in Libya a huge dragon, to which every day a virgin was offered up.

Gerrymander. Geographically so to apportion legislative, congressional, or other electoral districts, as to give one political party an unfair advantage. Started in Massachusetts, in 1811, under Gov. Elbridge Gerry.

Ghetto. The Jewish quarter in a city. Originally the quarter in Rome and other Italian cities, to which the Jews were restricted.

Ghibellines. In the Middle Ages, adherents of the Holy Roman Empire against the Papacy. See *Guelphs.*

Girondists, The Gironde. In the French Revolution the party of moderate "constitutional" Republicans, which originated in the Gironde Department.

Glencoe. A pass in Argyleshire, Scotland. Here, Feb. 13, 1692, occurred the famous massacre of Glencoe, in which thirty-eight of the McDonalds were murdered by 120 soldiers under Capt. Campbell.

Gobelins. A tapestry and carpet manufactory at Paris, founded about 1450 by J. Gobelin, a dyer.

Go'diva, Lady. Wife of Leofric, Earl of Mercia, who offered to remit certain exactions to his tenants if she would ride naked through the streets of Coventry. She did so, everybody keeping indoors except one "Peeping Tom," who was struck blind for peeping at her.

Golconda. A fortified town in India noted for its trade in diamonds.

Golden Age. An age of innocence and prosperity. The palmy time of a nation's history or literature.

Golden Gate. The entrance to the harbor of San Francisco, Cal.

Golden Horn. The arm of the Bosphorus, upon whose banks Constantinople is built.

Golden House. A palace covered with gold and built by Nero in Rome.

Gordian Knot. A vexed question; an obstacle to be overcome by bold action. Gordius, a Phrygian peasant, when chosen king, consecrated his wagon to Jupiter, tying the yoke and beam together so that it could not be untied. Hearing that the untier of the knot should rule over

all Asia, Alexander (the Great) cut the knot with his sword.

Gordon Riots, The. They occurred in 1780, at London, under Lord George Gordon, a weak-minded nobleman, to force the repeal of the bill passed by the House of Commons in order to relieve the Roman Catholics.

Gotham. A name sometimes applied to New York City.

Gotham, The Wise Men of, were noted for their folly. Gotham was an English village, in Nottinghamshire.

Great Duke, The. The Duke of Wellington. (1769–1852.) See Iron Duke.

Great Eastern. The largest steamship ever launched before the last decade of the nineteenth century. She was made to carry 1,000 passengers and 5,000 tons of cargo. After 1864 she was used only in laying cables.

Great Pyramid, The. At Ghizeh, near Cairo, Egypt, was built by Cheops. It is 481 feet high, and covers an area of over 571,000 sq. ft., the side of its base being nearly 756 feet long.

Greenbacks. The first United States Treasury notes; so called from their color.

Green Isle, The. Ireland, from the greenness of its vegetation; also called the Emerald Isle.

Greenwood. A cemetery in Brooklyn, N. Y., covering 400 acres.

Gregórian Year. The year as reformed by Gregory XIII., in 1582. He "skipped" 10 days.

Gretna Green. A Scotch village, once famous for runaway matches. A declaration before witnesses of intention to marry was sufficient to make a valid marriage in Scotland.

Grub Street. A London street, once noted for literary hacks.

Guelphs. In mediæval Europe, adherents of the Papacy, against the Holy Roman Empire. See Ghibellines.

Guildhall. The London Town Hall; the hall of the guilds.

Gunner's Daughter, Kissing or Marrying the. To be flogged. Boys in the English navy, before being flogged, are tied to a gun breech.

Gunpowder Plot, The. A plot to blow up James I and the English Parliament in its House, Nov. 5, 1605, with gunpowder. It was to be carried out by Guy Fawkes, as a reprisal for anti-Catholic legislation.

Gyges's Ring. A ring which made the wearer invisible. Gyges, a Lydian, found in a brazen horse, in a cavern, a man's corpse, from the finger of which he took a brazen ring which made him invisible. With this ring he went into the chamber of the King of Lydia, murdered him and succeeded to his throne.

H

Habeas Corpus Act, The. (Lat., "have the body.") Passed in the time of Charles II., it provides that the body of an accused person must be brought (if he insist) before a judge, and the reason of his confinement stated. The judge will then determine whether or not to admit the accused to bail. The guilt of the accused is decided by a jury.

Halcyon Days. A period of happiness. The halcyon (kingfisher) was thought by the ancients to hatch its eggs, about the winter solstice, on the surface of the ocean, which was always calm during this time.

Handicap. In horse-racing, assigning different weights to horses of different speed, age, etc., that they may run with equal chance. So called from an old game of cards.

Hansard. The British *Parliamentary Debates*, first printed by Hansard.

Hanseatic League. A union of maritime towns in Northern Germany and other countries for purposes of trade and mutual protection, founded in the thirteenth century. From Middle High Germ. *hanse*, "mercantile association."

Hanse Towns. The North German seaboard cities which once constituted the Hanseatic League.

Hare, Mad as a March. The hare acts wildly while breeding, in March.

Harpies. Creatures with a woman's head and breasts, and the rest of the body like vultures, hungry and emitting a terrible stench.

Hara-Kiri. (Jap., "belly cutting.") Japanese suicide by ripping out the bowels with two cross-gashes.

Harvest Moon. The full moon at or near the fall equinox when it rises for a number of days about sunset.

Hawkeye State, The. Iowa, so named after an Indian chief.

Heathen Chinee. A nickname of the Chinese in America.

Heidelberg Castle. A ruin near Heidelberg, Baden.

Heel-tap. "No heel-taps;" i. e., drain the glass to the bottom. A heel-tap is one of several pieces of leather in the heel, or *bottom*, of the shoe.

Hēgīra. (Arab., *hejira*, "departure.") The date of Mahomet's flight from Mecca, July 16, 662, with which the Mahommedan era begins.

High Church. That section of the Anglican Church, which maintains the apostolic descent of the clergy, sacramental rites and absolution by priests.

High Seas, The. The open sea or the sea beyond three miles from the coast.

History, The Father of. The Greek historian, Herodotus.

Hob-and-Nob. To touch glasses together in drinking; to talk confidentially to. A variant of hob-nob, hab-nab, from O.E. *habban-nabban*, "have—not have," as a familiar offer of a drink. Cf. *Shak.*, Tw. Nt. iii, 4: "Hob nob is his word; give't, or take't."

Hobson's Choice. What is offered, or nothing. It is said that Tobias Hobson, an English stable-keeper, made each customer take the horse nearest the stable door.

Hoi polloi. (Gr., the many; the multitude.) Mob, common herd.

Holborn. A London district through which criminals used to pass to execution at the Tyburn public gallows.

Holy Alliance, formed in 1815 by Austria, Prussia, and Russia.

Holy Family, The. The name of many mediæval pictures representing the infant Jesus, Joseph, the Virgin, John the Baptist, Anna, and Elizabeth. Perhaps the most celebrated are by Michael Angelo, at Florence; by Rubens, at Florence; by Raphael, in London; and by Leonardo da Vinci, in the Louvre.

Holy Land, The. Palestine, as the cradle of Judaism and Christianity.

Holy League, The. The alliance of Pope Julius II., Spain and Venice, in 1511, to drive the French out of Italy.

Honi soit qui mal y pense. (Fr., Shamed be he who evil thinks of it.) Motto of the Order of the Garter. At a ball given by Edward III. of England, the Countess of Salisbury's blue garter came off accidentally. The King picked it up and fixed it round his own knee, making the remark quoted above. This led to his instituting the Order of the Garter.

Honors of War. Allowing a surrendered enemy to keep his arms.

Hôtel de Rambouillet. A Paris palace, the resort of wits, literary ladies, etc., in the seventeenth century. It was ridiculed by Molière.

Hôtel de Ville. The City Hall of French and Belgian cities.

Houris. (Pers. *huri*, Arab. *huriya*, "nymph of Paradise"). In the Koran, black-eyed, beautiful virgins of Paradise; seventy-two are allotted to each believer.

Humble Pie, To eat. To make submission, humiliate one's self. From *umbles* or *humbles*, the entrails of the deer.

Hundred Days, The, from March 20, 1815, when Napoleon escaped from Elba, to June 22, 1815, when he abdicated, actually ninety-five days.

I

Iconoclast (Gr., Image-breaker.) A radical reformer; so called from the religious reformers of the eighth and ninth centuries, who objected to and destroyed icons or images.

Iliad. A Greek epic poem, by Homer, recounting the story of the siege of Troy (Ilium), by the Greeks.

Immaculate Conception. The dogma of the Catholic Church, proclaimed in 1854, that the Virgin Mary was conceived without original sin.

Independence, Declaration of, issued July 4, 1776, asserting the independence of the American Colonies of Great Britain.

Independence Hall, in Philadelphia, Penn.; the meeting-place of the Continental Congress, where the Declaration of Independence was adopted.

Index Expurgatorius. (Lat., Expurgatory Index.) A list of printed works which the Church of Rome allows to be read only in expurgated editions.

Inns of Court. The four London law societies which have the sole right of admitting candidates to the bar. They are GRAY'S INN, INNER TEMPLE, LINCOLN'S INN, and the MIDDLE TEMPLE.

Inquisition. An ecclesiastical tribunal (The Holy Office), to inquire into transgressions against the Roman Catholic Church.

Irish Agitator, The. Daniel O'Connell (1775–1847).

Iron City, The. Pittsburg, Pa., celebrated for its iron industries.

Iron Mask, The Man in the. A mysterious French state prisoner, in the reign of Louis XIV.

J

Jack Ketch. A hangman; from John Ketch, an English hangman, under James II.

Jack Robinson. Before you can say Jack Robinson, meaning *at once*. Halliwell notes the derivation "Jack, Robes on" from an old play. According to Grose, one Jack Robinson was noted for the shortness of his visits; the servants had hardly time to repeat Jack Robinson, before he would leave. (Very doubtful.)

> Awarke it ys as easie to be done
> As tys to saye Jacke Robyson.

Jack the Giant-Killer. A wonderful nursery hero, who has an invincible sword, a cap of wisdom, shoes of swiftness, and an invisible coat.

Jack, the American, or Union. The blue ground of the American flag with the stars, but without the stripes.

Jacobins. A famous political club in the French Revolution. It met at a convent of the Jacobins (Dominican friars).

Jacobites. Adherents of James II. of England, and the Stuarts, his descendants; from Jacobus (Lat., for James).

Jardin des Plantes. (Fr., Garden of Plants). Botanical and zoölogical garden in Paris.

Jardin Mabille. A once famous garden in Paris; the home of the *cancan* and pleasure resort of the *demi-monde*. Shut up in 1882.

Jericho, Go to or **Stay in.** Disappear; begone; wait in obscurity. In allusion to 2 Sam. x. 5: " . . . "and the King (David) said, Tarry at Jericho until your beards be grown, and then return."

Jerusalem Delivered. An Italian epic poem by Torquato Tasso (Parma, 1581).

Jingo, Jingoism. Expressions which arose during the ministry of Lord Beaconsfield, 1874–1880. Applied to those who wished England to take an aggressive foreign policy. It originated in a music-hall song:

> ". . . We don't want to fight, but, by jingo, if we do,
> We've got the ships, we've got the men, we've got the money, too."

Joan, Pope. A legendary female Pope (John VIII, 855–8), who was said to have succeeded Leo IV., and died in childbirth.

John Bull. Nickname for an Englishman; England. A choleric, fat, bull-headed, well-meaning fellow.

John Chinaman. Nickname for the Chinese in America.

Johnny Reb. (Short for *rebel*.) Nickname of Southerners in the American Civil War. See Yank.

Jubilee, Year of. Among the Jews came every fiftieth year; all debts were considered paid, and land reverted to its original owners. In the Catholic Church, once in twenty-five years, to grant indulgences.

Juggernaut. A Hindoo god who has a famous temple in India.

Julian Era, The, begins 46 B.C., when Cæsar reformed the calendar.

Junius, Letters of. A celebrated series of political letters signed "Junius," written in the reign of George III., of doubtful authorship.

K

Kansas, Bleeding. So called on account of the fierce struggles between its anti-slavery and pro-slavery settlers.

Kensington Gardens. A great London pleasure ground adjoining Kensington Palace (where Queen Victoria was born).

Keystone State, The. Pennsylvania, which was the keystone (the middle,

i. e. seventh) in the arch of the original thirteen states.

Kilkenny Cats, The, fought in a saw-pit till only their tails remained.

King can do no wrong, The, meaning he is not responsible, but his ministers are, for mistakes in administration.

King of Yvetot. A "good, little king." The head of the petty seigneurie of Yvetot, near Rouen, had the title of king. The "Roi d' Yvetot" is the subject of a quaint ballad by Béranger.

King Cole. A legendary British king, who "loved his pipe and bowl."

King Cotton. Cotton, the great product of the Southern States, was so called before the Civil War.

King's Evil. The scrofula, which, it was thought, a sovereign's touch could heal. Doctor Johnson was the last Englishman "touched" for scrofula.

King Log. An ineffectual, do-nothing ruler. In Æsop's fable, the frogs prayed for a king, and Jupiter gave them a log. They complained of their king's shiftlessness, and Jupiter sent them a stork, which straightway began to devour them.

King-Maker, The. Richard Neville, the great Earl of Warwick, who set up and deposed English kings in the fifteenth century.

King Stork. A tyrant. Cf. King Log.

Kit Kat Club, The. A famous London Whig Club, founded in 1688, at the shop of one Christopher Katt, pastry-cook. Among the members were Addison, Congreve, Halifax, the Duke of Marlborough, Steele, and Vanbrugh.

Knickerbocker. A member of an "old" New York family; especially descendants of the original Dutch settlers. It was derived from Knickerbocker, the imaginary author, Diedrich, of Washington Irving's *History of New York* (1809).

Knights of Malta. Also called Hospitalers of St. John of Jerusalem. Originally they had charge of a church and hospital at Jerusalem consecrated to St. John. Thence they moved to Rhodes, and in 1523 to Malta.

Know Nothings. A political party in the United States insisting that nobody but "native Americans should hold office." Sprang up suddenly about 1853, and disappeared, 1856.

Kohinoor (Pers., Mountain of Light). A diamond from the mines of Golconda, India. When found (1550) it weighed 793 carats; the present weight is 106 1-16. It came into the possession of Queen Victoria in 1850. Valued at $625,000 or £125,000.

Koran. (Ar., book, or the book.) The Mahommedan Bible. The prefix **al** means "the."

Kremlin. (Russ., *Kreml'*, inner fortress.) A quarter in Moscow, Russia, in which are several palaces, cathedrals, towers, etc.

L

Labyrinth, The. An inextricable series of winding passages; a maze of difficulties. So called from the celebrated labyrinths in Ancient Egypt and in Crete (built by King Minos).

Laconic. Brief, from Laconia, another name for Sparta; the Spartans cultivated curtness of speech.

Lacrymæ Christi. (Lat., Tears of Christ.) Italian wine produced about Mount Vesuvius.

Lake School, The. The poetry of Coleridge, Wordsworth, and Southey, who lived in the Lake district of England.

Lake State, The. Michigan, from the four Great Lakes bordering it.

Land of Bondage. Egypt, where the Jews were in the Pharaohs' bondage.

Land of Cakes. Scotland, famous for its oatmeal cakes.

Land of Nod. Sleep, from nodding, with a humorous allusion to the Land of Nod (Heb., flight, wandering) to which Cain fled (Gen. iv, 16).

Land of Promise or **Promised Land.** Among the Jews, Canaan, which God promised to Abraham.

Lang Syne, is Scotch for long since. The famous song *Auld Lang Syne* is generally credited to Robert Burns, who said he had taken this song down from an old man's singing.

Langue d'Oc. (Language of Oc.) Provence, formerly the language of southern France, where *oc* = "yes."

Langue d'Oui or formerly **d'Oïl.** (Language of *oui* or *oïl.*) French

(in distinction from Provençal), where *oui* (or *oïl*) means "yes."

Laöcoön. A statue in the Belvedere of the Vatican representing the death of the priest Laöcoön and his two sons, strangled to death by serpents.

Laodicean. "Luke-warm," in religious matters. See Rev. iii. 14–18.

Lares and Penates. The household gods of the Romans.

Last Judgment. The subject of many mediæval paintings. The most famous is the fresco by Michael Angelo, in the Sistine Chapel in the Vatican. There is a fresco of it in the Campo Santo, at Pisa, the work of Orcagna or Lorenzetti; and a picture on this subject by Luca Signorelli, in Orvieto Cathedral, is considered his master-piece.

Last Supper, The, is the subject of many mediæval paintings, of which the most famous is Leonardo da Vinci's at Milan. Next is Andrea del Sarto's in the San Salvi convent, near Florence.

Lateran Palace, The, at Rome, was the residence of the Popes till late in the 14th century.

Leaning Tower, The, at Pisa, Italy; leans about 13 feet 8 inches southward from the perpendicular; 181 ft. high; 50 ft. in diameter.

Learned Blacksmith, The. Elihu Burritt, an American writer and linguist, at first a blacksmith (1811–79).

Leonine Verses. Verses in which the end and middle words rhyme.

Libby Prison. A famous Confederate prison of war at Richmond, Va., during the Civil War, later transported to Chicago and made a war museum.

Lilliput. A region inhabited by pygmies, in Swift's *Gulliver's Travels*.

Lingua Franca. (Lat., The Frank language.) A jargon of Romance, Greek, and Oriental words used in commerce and intercourse by all nationalities along the Mediterranean. Hence any international language.

Lion and Unicorn, on the British royal arms, since 1603. The lion is English; the unicorn, Scotch.

Lion's Share. All or most. The lion, in Æsop's fable, hunts with other beasts. In dividing the spoils he claims four quarters.

Lloyds. Rooms in London, where brokers and underwriters congregate.

Lombard Street. The great financial street in the City, London.

Long Parliament, The. Sat from Nov. 3, 1640, till April 20, 1653.

Lorelei. A water siren who enticed sailors to their death in the rapids around the high rock Lorelei, in the Rhine.

Lotus Eaters, The. A people in Homer's *Odyssey*, who ate the lotus tree, which made them forget home and wish only "to live at ease."

Louvre. Formerly a palace in Paris, now a museum filled with works of art.

Low Church. That section of the English Church which lays little or no stress on ceremonies and is extremely "evangelical."

Lusiad. A Portuguese epic by Camoens; recounting the adventures of the Lusians (Portuguese) under Vasco da Gama, the first to sail to India.

Lynch Law. Mob law; summary punishment or death by a mob. The term is derived from a Virginian, Charles Lynch (1733–96), who dealt summarily (always without death punishment) with the lawbreakers of his community, early in the Revolution.

M

Mab, Queen. "The fairies' midwife," i. e. employed by the fairies to deliver man's brain of dreams.

Macadamize. To pave a street broken stone; so called from Sir John Macadam (1756–1836), who invented that system of paving.

Macaronic Verse. Ludicrous verses consisting of words from many languages mixed, like a macaroni medley.

Machiavellism. Political or diplomatic trickery; because advocated by Nicholas Macchiavelli (1469–1527) in a political treatise, "*The Prince*."

Madame Tussaud's Exhibition. An exhibition in London of wax-work figures, modelled from life.

Madonna. (It., My Lady.) The Virgin Mary. Of the numerous pictures on this subject, the best-known are the Sistine Madonna, by Raphael, the Madonna di San Georgio, by Correggio, at Dresden;

and the Madonna of the Chair, by Raphael, in the Pitti Palace, Florence.

Maecē'nas. A friend and patron of literary men. Gaius Cilnius Mæcenas, a Roman general and statesman, friend of Augustus, was a liberal patron of literary men, especially Horace and Virgil.

Mag'na Chär'ta. (Lat., The Great charter.) The charter securing the liberty (or at least fair trial) of English subjects; granted by King John in 1215.

Mahomet's Coffin. Said to be hanging in mid-air at Medina.

Maid of Orleans, The. Jeanne Darc (1412–31), from causing the English to raise the siege at Orleans, France (1429).

Maid of Saragossa. Augustina, famous for her valor during the siege of Saragossa (Zaragoza) in Spain, by the French (1808–1809).

Maiden Queen, The. Queen Elizabeth of England. See Virgin Queen.

Maine Law. A prohibitory liquor law adopted in Maine, 1851.

Malthusian Doctrine, The. So called from the English economist T. R. Malthus (1766–1834), who claimed that the population increases faster than the means of living; so that, unless population is checked, either a part of it must starve to death, or the whole of it be insufficiently fed.

Mammoth Cave, near Green River, Ky., is the largest in the world.

Man in the Moon, The. The man who picked up sticks on the Sabbath (Numbers, xv. 32–36). Another legend says he is Cain.

Man of Iron, The. Bismarck.

Man of Straw. An irresponsible person used as guarantee in business; an assumed opponent with easily defeated arguments.

Mare's Nest, To find a. To find something which seems important, but doesn't amount to anything.

Marriage à la Mode. (Fr., "Fashionable Marriage.") A series of six satirical pictures by William Hogarth (1697–1764).

Marseillaise. The French national air, composed by Rouget de Lisle (1760–1836), first sung publicly in Marseilles (1792).

Martinet. A rigid disciplinarian, so called from Martinet, a French infantry general under Louis XIV.

Mason and Dixon's Line. The line run by two English surveyors, Charles Mason and Jeremiah Dixon, 1763–1767, 39° 43′ 26″ north latitude, as the northern boundary of slavery, dividing Pennsylvania from Maryland and Virginia.

Mausoleum. The marble monument built by Artemisia, queen of Caria, to her husband, Mausolus; one of the seven wonders of the world.

Mayfair. An aristocratic quarter in London.

Mayflower, The. The vessel in which the founders of Plymouth Colony, in Massachusetts, sailed from Southampton, England, in 1620.

Merlin. A celebrated enchanter in the Arthurian legends, who made the Round Table (q. v.).

Merry England. A common designation of England.

Mesmerism, the theory of *animal magnetism,* of the German physician, Mesmer (1733–1815).

Mezzo Relievo. (It., Middle Relief.) Figures cut in stone, etc., which project from the tablet more than figures in Basso-Relievo (q. v.) and less than figures in Alto-Relievo (q. v.).

Middle Ages, The. The period between the destruction of the Roman Empire and the revival of learning in Italy—from 476–1500.

Middle States, The. New York, Pennsylvania, New Jersey, and Delaware.

Minnesingers. (Germ., Love-singers.) The German lyric poets of the twelfth and thirteenth centuries.

Miserē're. (Lat., Pity.) The Fifty-first psalm beginning with the words: "Pity me, O Lord;" a penitential psalm.

Missouri Compromise, The. An agreement, consisting of a bill (1820), prohibiting slavery above 36° 30′ north, and an Act of Congress (1821), admitting Missouri to the Union.

Mistress of the Seas. England.

Molly Maguires. A secret society in the United States, of the Black Hand character, whose letters were signed "Molly Maguire." Many crimes were attributed to it, especially in Pennsylvania, in the coal regions, about 1877.

Monarque, Le Grand. (Fr., The Great Monarch.) Louis XIV. of France.

Monroe Doctrine. The doctrine proclaimed by President Monroe in his annual message (1823), that no European government should meddle in the affairs of the American continent.

Mont de Pieté. (Fr., "Hill (i. e., pile, bank) of Piety".) A pawnbroker's shop run with the government's authority; in particular the one in Paris.

Montmartre. A hill and section of Paris, with a famous cemetery.

Monumental City, The. Baltimore, Md., so called from the number of its public monuments.

Morey Letter, The. A forged letter written (1880) in the name of J. A. Garfield to a mythical H. L. Morey and advocating cheap Chinese labor.

Morganatic Marriage. The marriage of a man of royal rank to a woman of lower rank, without giving her husband's title to her or to her offspring.

Mother of Presidents. Virginia; the birth state of seven Presidents of the United States: Washington, Jefferson, Madison, Monroe, W. H. Harrison, Tyler, and Taylor.

Mother Carey's Chickens. Stormy petrels. Mother Carey is said to be *Mater Cara* (Fr., "Dear Mother"), i. e., The Virgin Mary; the French call them *oiseaux de Notre Dame*, birds of Our Lady.

Mother Goose. A nursery rhymer supposed to have lived in Boston and sung her rhymes to her grandson, Thomas Fleet, who printed them in 1719.

Mount Vernon. The home and burial place of Washington in Virginia.

Muscular Christianity. Healthy religion, "a sound mind in a sound body."

Music of the Spheres. According to Plato each of the seven planets has a siren who sings a song harmonizing with the motion of her own planet, and also with the other planets.

N

Namby-Pamby. Wishy-washy, childish. A name given by Carey and Pope to verses written by Ambrose Philips, from a babyish way of pronouncing Ambry (Ambrose).

Nantes, Edict of. Issued at Nantes, France, in 1598, by Henry IV., granting toleration to the Protestant religion; repealed by Louis XIV. in 1685.

Nation of Shopkeepers. The English; so called by Napoleon I.

Natural Bridge, The. A natural arch 215 feet high spanning Cedar Creek, near James River, Virginia.

Newgate. The oldest of the London prisons. A new gate was built in the reign of Henry I.

New World. The Americas.

Nibelungen-Lied. (Germ., Song of the Nibelungs.) A German epic poem of the thirteenth century, narrating the struggle for the possession of the Nibelung treasure.

Nightmare of Europe, The. Napoleon Bonaparte.

Nine Worthies, The. Joshua, David, Judas Maccabæus, Hector, Alexander, Julius Cæsar, Arthur, Charlemagne, and Godfrey de Bouillon.

Noc'tēs Ambrosiä'nae. (Lat., Ambrosian nights.) The title of a celebrated series of papers by Prof. Wilson ("Christopher North"). Lockhart and Wilson used to frequent Ambrose's, an Edinburgh tavern.

Noël. (Fr., Christmas, Christmas Carol.) Christmas.

Nonconformists. Dissenters from the Church of England. Originally the clergymen who would not conform to the Act of Uniformity of 1662.

Northern Giant, The. Russia.

Nôtre Dame. (Fr., Our Lady.) The cathedral (of Our Lady) of Paris.

O

Odyssey. Homer's epic poem dealing with the adventures of Odysseus (Ulysses) on his voyage from Troy to Ithaca.

Ogres. (Fr., *Ogre*, from Lat. *Orcus*, hell.) Giants who devour human flesh.

Old Abe. Abraham Lincoln.

Old Bailey, The. A famous criminal court, in Old Bailey Street, London.

Old Colony, The. Massachusetts, as

organized by the Plymouth Pilgrims.

Old Dominion, The. Virginia.

Old Guard, The. Favorite regiment of Napoleon I. The supporters of Gen. Grant for the Presidency at the Chicago Convention of 1880, and often used later in American politics.

Old Probabilities. A nickname for the United States signal service chief.

Old Public Functionary. President James Buchanan (1791–1868).

Old South, The. A famous church in Boston, Mass., connected with many events in the Revolution.

Orangeman. A Protestant Irishman, as espousing the cause of William III. (1689–1702), prince of Orange.

Orange Peel. Sir Robert Peel (1788–1850), from his anti-Catholic or Orange (see Orangemen) policy, with a comic allusion to the fruit as a slur on his name.

Ordinance of 1787. The act fixing the government of the Northwest Territory of the United States.

Orlando Furioso. (It., Orlando, i. e. Roland frenzied.) An Italian epic poem by Ariosto (1474–1533), relating the story of Charlemagne's paladin Roland.

Ossian. Son of Fingal, a Scotch bard. James McPherson published in 1760–3 *Ossian's Poems*, as if translated from Erse manuscripts. The MSS. never existed and the poems are McPherson's own, in the main.

Ostend Manifesto. Issued (1854) at Ostend, Belgium, by Buchanan, Mason, and Soulé, United States Ministers to England, France, and Spain respectively, declaring that Cuba must belong to the United States.

Ostracism. (Gr., *ostrakon*, shell, crock, voting tablet.) The Athenians expelled every dangerous public man against whom a sufficient number of votes (inscribed on oyster shells) could be cast.

P

Palimpsest. (Gr., re-scraped.) A parchment in which the original writing has been rubbed out, and new writing substituted.

Pall Mall. (Pronounce pĕl mĕl.) A street in London famous for its clubs.

Palladium. (Gr., Statue of Pallas Athena.) An object that insures protection. The Palladium was believed to insure the preservation of Troy by its presence.

Pantheon. (Gr., of all gods.) A circular building in Rome of the time of Augustus; now the Rotonda church.

Paradise Lost. Milton's great epic, treating of the fall of man.

Paradise Regained, treats of the temptation and triumph of Christ.

Paris of America. Cincinnati.

Parthenon. (Gr., Parthenos, the Virgin, Athene.) A celebrated temple of Athena on the Acropolis, Athens; the noblest specimen of Doric architecture.

Partington, Mrs. Famed for misuse of words, in B. P. Shillaber's *Life and Sayings of Mrs. Partington* (1854).

Pasquinade. A sarcastic political squib; so called from Pasquino, a sarcastic tailor. Upon an antique statue in Rome, called Pasquino, political squibs are affixed.

Peeler. (Eng. Slang.) A policeman. So called from Sir Robert Peel, the founder of the London constabulary.

Peninsular War. The war of the English against France in Spain and Portugal, 1808–1812.

People's William. A nickname of William E. Gladstone.

Père-Lachaise. The most famous cemetery in Paris, enlarged by the Jesuit Père (Fr., Father) Lachaise, confessor to Louis XIV.

Philippic. A severe invective; so called from the orations of Demosthenes against Philip of Macedon.

Philistine. A narrow-minded person; in common use in the German Universities to designate tradesmen, etc.

Philosopher's Stone, The. A substance for which the alchemists were always searching; it was to turn the other metals into gold.

Phœnix. A fabulous bird, said to live 500 years, when it burns itself on a nest of spices, and renews its life for 500 years more.

Pied Piper of Hamelin, The. He was offered a reward to drive out the rats and mice from Hamelin in Westphalia; he drew them into the river by the sound of his pipe. The authorities refusing to pay him the reward, he piped the children of the

town into Koppenberg Hill, where 130 of them died.

Pigeon (or **Pidgin**) **English.** English, Chinese and Portuguese mixed; used in business affairs in China and the East, *pidgin* representing *business* in the Chinese mouth. Cf. Lingua Franca.

Pleiad, The French. (Pleiades, a bright constellation of six stars, seven in the mythology of ancient Greece.) Seven sixteenth century poets, viz: Ronsard, Joachim du Bellay; Remi-Belleau, Jodelle, Baïf, Pontus de Thyard, Dorat.

Plymouth Rock. A rock at Plymouth, Mass., where the Pilgrims are thought to have landed in 1620.

Poet's Corner. A corner in Westminster Abbey where Chaucer, Spenser, Shakespeare, Milton, and other poets are buried.

Pons Asinorum. (Lat., The bridge of asses.) The fifth Proposition of the first Book of Euclid's Geometry; difficult to dunces.

Poor Richard. Benjamin Franklin's name as author of *Poor Richard's Almanac*, with wise maxims (1732–57).

Porkopolis. (Pork+Gr. *polis*, City.) The nickname of Cincinnati and Chicago for their pork industry.

Prater, The. The fashionable promenade of Vienna, Austria.

Pre-Raphaelites. A name given to the English school of artists, comprising Hunt, D. G. Rossetti, Millais, and others, aiming at the natural style of the Italian masters before Raphael.

Protestant Duke, The. The Duke of Monmouth, natural son of Charles II.

Puke. Nickname of a Missourian.

Q

Quaker City, The. Philadelphia, Pa.

Quaker Poet, The. John G. Whittier.

Quartier Latin. (Fr., The Latin Quarter.) A region in Paris south of the Seine, whose population consists largely of students.

Queen of the Antilles. Cuba.

R

Railway King, The. George Hudson (1800–71), an Englishman, who made an immense fortune out of railway speculations.

Ranz des Vaches. (Fr., Lowing of the Cows.) The tunes played by the Swiss mountaineers on their horns while driving their cattle to pasture.

Rebellion, The Great. The war between Charles I. of England and Parliament (1642–49).

Rebellion, War of the. The Civil War of the United States between the Southern and Northern States, 1861–1865.

Red Letter Day. A fortunate or memorable day. In old calendars the saints' days were marked by a red letter.

Red Tape. Official routine and delay. Law papers are tied with red tape.

Reign of Terror. The time in the French Revolution from the overthrow of the Girondists (q. v.), May 31, 1793, to the overthrow of Robespierre, July 27, 1794.

Reynard, the Fox. A beast epic of the fourteenth century.

Rialto, The. A famous bridge over the Grand Canal, Venice.

Rights, Declaration of. An instrument drawn up after the English Revolution of 1689, and accepted by William and Mary, Feb. 13, 1689. It summarizes the leading points of the English Constitution.

Roast, To rule the. To be at the head; to have "the whole say."

Robert the Devil. Robert I, First Duke of Normandy, father of William the Conqueror; so called for his crimes.

Robin Goodfellow. A mischievous domestic spirit, the same as *Puck*.

Rocinante, see **Rosinante.**

Roland (A) for an Oliver. Tit for tat: blow for blow. Roland and Oliver, two of Charlemagne's peers, fought five days without gaining the slightest advantage over each other.

Romantic School. A term applied to a number of German poets, musicians and painters in the beginning of the nineteenth century. They aimed at a truly national German literature, independent of French influence.

Romantic School, in France, the poets and dramatists, headed by Victor Hugo and Lamartine. They

aimed at the natural as against the classical, i. e. conventional.

Roscius, The British. David Garrick; Roscius (died 62 B.C.) was the greatest comic actor of Rome.

Rosinante. A miserable nag. So called from Don Quixote's horse.

Rough and Ready. President Zachary Taylor (1784–1850), from his manner.

Roundheads. The Puritans, who wore short hair.

Round Robin. (Prov. Engl., Pancake.) Petition with signatures in a circular form.

Round Table, in the Arthurian legends, was made by Merlin; Arthur's 150 knights of the Round Table had seats at it.

Royal Martyr, The. Charles I. of England, executed in 1649.

Royal Society, The. A society for "improving natural knowledge," founded at London in 1662.

Rubicon, To pass the. To take an irretrievable step. The Rubicon separated Italy from Cisalpine Gaul, Cæsar's province. When he crossed he became an enemy of the Republic.

Rule Britannia! An English song, the words of which are by Thompson, author of *The Seasons*, and Mallet; the music was written by Dr. Arne, 1740.

Rump Parliament. What was left, i. e. the fag-end (rump), of Parliament in 1648, after Cromwell had imprisoned and driven out the others for refusing to condemn Charles I.

Rye House Plot. A conspiracy in 1683 to assassinate Charles II. and the Duke of York. The conspirators met at Rye House, in Hertfordshire.

S

Sabbath Day's Journey. About one mile. See Exodus xvi. 29.

Sadducees. Jewish sect (ii cent. B.C.), denying the resurrection of the dead.

Sagas. Scandinavian books containing the Northern mythology.

Sailor King, The. William IV., of England, who entered the navy 1779.

Saint Bartholomew, Massacre of. Massacre of the French Huguenots, in the reign of Charles IX., on St. Bartholomew's Day, Aug. 23–24, 1572.

Saint Cloud. Once a famous French palace near the Seine; destroyed in the Franco-Prussian war.

Saint James, The Court of. The English Court; so called from the palace of St. James, formerly a royal residence in London.

St. Mark's. The famous cathedral of Venice, Italy.

Saint Paul's. The cathedral of London, designed by Wren.

Saint Peter's. The metropolitan church of Rome; the most splendid in the world. Area, 240,000 square feet.

Saint Sophia. The famous cathedral of Constantinople, turned into a Mohammedan mosque in 1453.

Saint Stephen's. A famous Gothic cathedral at Vienna, Austria.

Salt River. (An obscure stream in Kentucky.) Oblivion. "*Gone up Salt River*"; forgotten.

Sambo. (Sp., *zambo*, bow-legged.) A nickname for a colored man; the offspring of a black and a mulatto.

Sanctum. (Lat., Holy thing or place.) One's private room or office, as an editor's *sanctum*. The *Sanctum Sanctorum* (Holy of Holies) in the Jewish Temple was inaccessible to any one but the high priest.

Sandwich. Meat or fish between two slices of bread. The English Earl of Sandwich used to take that form of refreshment, at the card-table.

San'hedrim. (Heb., from Gr. *syn[h]edrion*, con-session, council.) The Jewish court of seventy-one elders.

Sans Culottes. (Fr., Without trousers.) A nickname given by the Royalists to the French Revolutionists.

Sans Souci. (Fr., Without care.) Palace built (1745–7) by Frederick the Great, at Potsdam, near Berlin.

Santa Croce. (It., Holy Cross.) A church in Florence, Italy; the burial-place of Michael Angelo, Galileo, Machiavelli, and others.

Satanic School. A name sometimes applied to some modern writers, supposed to entertain irreligious ideas, as Byron, Shelley, Victor Hugo, Swinburne, Rossetti, George Sand.

Saturnalia. A period of disorder and debauch. The Romans observed the Saturnalia, or feast of Saturn, in

mid-December with much merriment and, occasionally, license.

Schoolmen. The mediæval theologians, whose lectures were delivered in the cathedral *schools*.

Scotland Yard. The former headquarters of the London police. Now at New Scotland Yard.

Scourge of God, The. Attila, king of the Huns.

Scratch, Old. The Devil; from Scrat, a Northern familiar demon.

Scylla. *Avoiding Scylla, he fell into Charybdis.* In trying to avoid one danger he fell into another. Scylla was a dangerous rock and Charybdis a whirlpool, on the opposite sides of the Straits of Messina, Italy.

Sea-girt Isle, The. England, which is surrounded by the ocean.

Secessia. Nickname of the Secession, i. e. Southern States, 1861–1865.

Secular Games. The games held by the Romans once in a *sæculum*, i. e. age, century.

Seltzer Water. Mineral water, from the Lower Selters, Germany.

September Massacres. The massacre of the French Royalist prisoners in Paris, Sept. 2–6, 1792.

Septuagint. A Greek version of the Old Testament; so called because there were *septuaginta* (Lat., seventy) revisers. The number is not exact.

Seven-hilled City, The. Rome, which was built on seven hills.

Seven Wonders of the World. The Pyramids of Egypt; the Temple of Diana at Ephesus; the Hanging Gardens of Babylon; the Colossus at Rhodes; the Mausoleum at Halicarnassus; the statue of Zeus, by Phidias, at Olympia; and the Pharos (lighthouse) of Alexandria in Egypt.

Seven Years' War. The war of Frederick the Great against Austria, France, and Russia, 1756–1763.

Shamrock. The national emblem of Ireland, because St. Patrick proved with it the doctrine of the Trinity.

Shi'bboleth. The password of a secret society; a countersign. When the Ephraimites, who had been routed by Jephthah, tried to pass the Jordan, they were made to pronounce the word *Shibboleth;* they pronounced it *Sibboleth,* and were thus detected (Judges, xii., 4–6).

Sick Man, The. The Ottoman Empire; so called by the Czar Nicholas II. of Russia. (1825–55.)

Sinews of War, The. Money, which hires men to fight. Cf. Cic. Phil. 5, 2, 5: *nervos belli pecuniam infinitam,* the sinews of war—unlimited money.

Single-Speech Hamilton. W. G. Hamilton (1729–96) made only one but surprisingly eloquent speech in Parliament.

Six Hundred, Charge of the. A charge on the Russians by the British light cavalry, 670 strong, at the battle of Balaclava, Oct. 25, 1854. Result of a mistake as to orders. See Tennyson's poem, *Charge of the Light Brigade.*

Sleeping Beauty, The, shut by enchantment in a castle; after a sleep of a hundred years, she is rescued by and marries a young prince.

Smell of the Lamp, To. Applied to a too labored literary work. Pȳth'eăs first applied the phrase to the orations of Demos'thēnēs, who constantly studied in a cave lighted by a lamp.

Song of Roland. An old French epic recounting the deaths of Oliver and Roland at Roncesvalles.

Sorbonne, The. A Paris university founded in the thirteenth century by Robert de Sorbonne, a famous school of theology, literature and science.

Sor'tes Biblicae. (Lat., Biblical prophecies.) Telling one's fortune by consulting the Bible. The first passage touched at random by the finger is decisive.

South Kensington Museum. A collection of works of art, manufactures, etc., in London.

South Sea Bubble, The. About 1711 a company was formed in England to pay the national debt, in return for the privilege of trading in the South Seas. It collapsed about 1720, ruining thousands.

Spanish Armada. See **Armada, Spanish, The.**

Spanish Main. The northern coast of South America.

Sphinx. A monument, half man, half lion, near the Great Pyramid (q. v.). An emblem of silence and mystery.

Stabat Mater. (Lat., The Mother, i. e. Virgin Mary, was Standing.) A famous Latin hymn on the crucifixion.

Stalwart. A Republican, in the United States, who firmly adhered to the principles, methods and rules of his party, as against the "Half-Breeds," or those unwilling to be dictated to by the "Machine" (1880 and later).

Star Chamber. (The roof of the chamber was decked with stars originally.) A former English civil and criminal court with jurisdiction over offences whose punishment was not provided for by law. Hence any court with secret methods.

"Stonewall" Jackson. Thomas J. Jackson (1824–63), a famous Confederate general in the Civil War of the United States, so styled because he stood like a stone wall at the battle of Bull Run (1861).

Strassburg Cathedral. At Strassburg, 468 ft. high, one of the noblest works of Gothic architecture; with a wonderful astronomical clock.

T

Tabooed. Prohibited. From the Polynesian word *tapu* meaning consecrated, devoted to gods or set apart.

Tammany Hall. A section of the Democratic party in New York City, meeting in Tammany Hall.

Tammany Ring (also called 'the Tweed Ring, and, generally, the Ring). A set of corrupt New York City officials who stole large sums from the City, exposed in 1871.

Tammany, St. The patron saint of Tammany Hall; an Indian chief, or sachem. The principal officer of the Tammany Society is called the Grand Sachem.

Tapis, On the. On the carpet; under discussion. So called from the *tapis* (Fr.) or cloth on the table, on which motions, bills, etc., are laid.

Temple Bar. A stone gateway before the Temple, in London, which the King had to obtain permission to pass. It was removed in 1878.

Termagant. A shrew; originally the name of a Saracen deity.

Terra Firma. (Lat., firm land.) Dry land as distinguished from water.

Tertium Quid. (Lat., a third something.) A middle ground between opposites.

Théâtre Français. (Fr., French Theatre.) A theatre in Paris for the production of the classic and best French dramas. Celebrated for the excellence of its company of actors.

Thelème, Abbey of. The abbey founded by Gargantua in Rabelais' *Gargantua.* Its motto was "Do as you please."

Thirty Years' War, The. Fought between the Catholics and Protestants, in Germany, 1618–1648.

Thistle. The national emblem of Scotland, for which tradition gives the following reason. The Danes were attempting to surprise an encampment of the Scotch one night, and had come very near it without being observed. A Dane trod on a thistle and cried out with pain. The Scotch were aroused, and defeated their assailants.

Thor. In Scandinavian mythology, the god of thunder and war, son of Odin.

Threadneedle Street, The Old Lady of. The Bank of England in Threadneedle Street, London.

Three Estates of the Realm. The nobility, the clergy, and the commonalty, represented in the two Houses of Parliament.

Thunderer, The. A nickname given to the London *Times*, for its "thundering."

Tick, On. On credit; for *on ticket.* Ticket was formerly used for a promissory note.

Tit for Tat. An equivalent. From tit-for-tat, blow-for-blow.

Tom Thumb. The famous American dwarf, Stratton (1838–83), exploited by Barnum.

Tory. The name of the great English party whose place is to a certain extent taken by the Conservatives. Originally a term of reproach, derived from *toruighe*, a robber.

Tour, The Grand. From England through France, Switzerland, Italy, to Germany and home. All aristocratic families, in England, used to send their sons on the grand tour.

Tower, The. The citadel of London, on the Thames.

Transfiguration, The. The most famous of Raphael's pictures, now in the Vatican. Represents the miraculous change of Christ on the mount.

Trimmer. A person who takes a

middle course in politics. First applied as a term of reproach to the great Halifax, who was not strongly attached to any political party.

Trinity Church. A famous Episcopal church on Broadway, at the head of Wall Street, New York City. The richest church in America.

Triple Alliance, The. 1. The alliance of Great Britain, Holland, and Sweden, in 1668, against Louis XIV. of France. 2. The Alliance of Germany, Austria-Hungary and Italy, formed in 1882.

Troubadours. Provençal lyric poets, from the eleventh to the fourteenth century.

Trouvères. Northern French epic poets, 1100–1400.

Trumpet. To blow one's own Trumpet, i. e. to boast. The coming of the knights into the list used to be announced by the heralds with a flourish of trumpets.

Tuft-hunter. A toady. At Oxford University a nobleman is called a *tuft,* because of the gold tuft on his college cap.

Tuileries. A royal palace in Paris, burned by the Commune in 1871.

Tulip Mania. A seventeenth-century European craze for buying tulip bulbs. Holland was the great seat of it.

Tune that the old cow died of. Words instead of alms. A hackneyed song. In the old song, a man who has nothing on which to feed his cow plays her this tune, "Consider, good cow, consider, This isn't the time for grass to grow."

Tyburn. Once a place of execution in London. The site is now occupied by Grosvenor Square and Portman Square, and called Tyburnia, a wealthy and fashionable quarter.

U

Uffi'zi. A building in Florence containing a celebrated art collection.

Ultramŏn'tānes. The extreme "high" Roman Catholics. The word, which means "beyond the mountains," was first used in France of those Catholics who ascribe everything to the Pope "beyond the Alps."

Underground Railroad. A phrase which expressed all the means used to further the escape of runaway slaves in America.

Under the Rose. (Lat. *Sub rosa.* Confidentially. The rose was considered by the ancients an emblem of silence.

Unknown, The Great. First applied to Sir Walter Scott; so called on account of the anonymous publication of the Waverley novels.

Unlicked Cub. An awkward, ill-bred boy. The bear cub was said to be out of shape till its dam licked it into shape.

Unter den Linden. (Ger., Under the Lindens.) A famous street in Berlin, Prussia. It has four rows of lime trees.

Unwashed, The Great. The mob first used by Edmund Burke.

Upas Tree. (Malay, *upas,* poison. An object that exerts a hurtful influence. There was a tradition that a noisome river rose in a upas tree in Java, the vapor of which was a deadly poison.

Upper Ten Thousand. The aristocracy; fashionable society. A phrase first used by N. P. Willis.

Utilitarians. Those who believe that utility, i. e. the fitness of a thing to promote human happiness is the proper standard of morality.

Utopia. (Gr., No Place.) The imaginary island which Sir Thomas More makes the scene of his romance of *Utopia;* an ideal commonwealth. Hence utopian means visionary.

V

Valhalla. In Scandinavian mythology, the palace of immortality where dwell the heroes slain in battle.

Vampire. A blood-sucker, extortioner. The vampire is a dead man who returns to life in the night, and sucks the blood of persons asleep.

Vatican. The palace of the Popes on the Vatican Hill, Rome.

Vatican Council. The Œcumenical Council which met at the Vatican in 1869, and promulgated the doctrine of Papal Infallibility.

Vedas. (Skt. *veda* [sacred] knowledge. The sacred books of the Hindus.

Vē'ni, Vī'di, Vī'ci. (Lat., "I came, I saw, I conquered.") The phrase with which Julius Cæsar announced

his victory at Zela, Asia Minor (47 B.C).

Venus de Medici. A celebrated Greek statue of Venus, at Florence (once in the Medici Palace, Rome), attributed to Cleomenes, a sculptor of the second century B.C.

Venus of Milo. (Mod. Gr., pronunciation of Melos.) Considered the most beautiful Greek statue; found in the Island of Melos, 1820, now in the Louvre.

Verbum Sap. (Brief for Lat. *Verbum Sapienti*, "A word to the wise.") A word to the wise.

Veronica. A relic at St. Peter's, Rome, said to be the handkerchief with which a woman Veronica wiped Jesus's brow on his way to Calvary. It is said to contain the true likeness of our Saviour.

Versailles. A splendid palace at Versailles, about ten miles from Paris.

Vespers, The Sicilian. The massacre of the French in Sicily by the Sicilians, March 30, 1282, at the vesper bell as the signal.

Via Dolorosa. (Lat., Way of pain.) The way by which Christ went from the Mount of Olives to Golgotha.

Vinegar Bible, The, printed at Oxford, 1767, has "vinegar" for, "vineyard" in the headline of Luke xxii.

Virgin Queen, The. Queen Elizabeth of England. See Maiden Queen.

Vitus, St. St. Vitus' dance is so called, because St. Vitus was thought to have control of hysterical complaints.

W

Wabash Avenue. A street in Chicago, Ill., noted for fine buildings.

Wall of China, The. A wall 1,500 miles long and 20 feet high, built by the Chinese, 210–204 B.C. as a protection against invasions.

Wall Street. The great financial street of New York. Most of the offices of bankers and brokers are on this street or in its vicinity.

Wallack's. A famous New York theatre, once conducted by J. Lester Wallack and his father. (1820–88.)

Walton. An Izaak Walton. An angler. Izaak Walton published his *Compleat Angler* in 1655.

Wandering Jew, The. A famous character in mediæval legend, one Ahasuerus, a cobbler, who drove from his door the Saviour wearied with carrying his cross. Jesus said, "I go away, but thou shalt tarry till I come." Condemned to live till the coming of our Lord, Ahasuerus has been wandering over the world, seen from time to time in Europe, the last time late in the eighteenth century, in Belgium. According to another legend, the Wandering Jew was Cartaphilus, the doorkeeper of the Hall of Judgment. He struck our Saviour, telling him to go faster.

War of 1812. Between Great Britain and the United States, 1812–15.

War of the Roses. The English civil wars, between the houses of York (badge—white rose) and Lancaster (red rose), in the fourteenth and fifteenth centuries. See Shakespeare's I. Henry VI. ii. 4.

Washington Street. The principal business street of Boston, Mass.

Wassail. (O.E., *wes hāl*, be whole, i. e. well!) An old Saxon salutation. The wassail bowl is the bowl of spiced ale used on New Year's Day.

Waters, The Father of. The Mississippi River; a translation of the Indian name Mississippi.

Watling Street. The chief Roman road, across Southern Britain from Dover to Cardigan.

Ways and Means, Committee of the. A most important Committee on the American House of Representatives, charged with devising the methods by which money for the current expenses of the Government is to be supplied.

Wedding. The first anniversary of a wedding is called a PAPER wedding, the gifts being paper articles; the fifth, WOODEN; the tenth, TIN; the fifteenth, CRYSTAL; twentieth, CHINA; twenty-fifth, SILVER; fiftieth, GOLDEN; sixtieth, or seventy-fifth, DIAMOND.

Well of St. Keyne. A well in Cornwall whose virtue is such that whoever of a married couple first tastes its waters will "wear the breeches" in the household.

Westminster Abbey. The celebrated abbey-church of London, where many of the illustrious dead of England are buried.

Wetherell, Elizabeth. Pseudonym of the American novelist, Miss Susan Warner (1819–85), author of *The Wide, Wide World* (1850).

Whig. Once the name of great political parties in England and the United States. The term is said to come from Whiggamore, a Scotch (Celtic) word for a thief, a freebooter. The Marquis of Argyle collected a troop of these thieves to oppose some measures of James I., and finally the epithet *Whig* was applied to all opponents of the Government. The Whigs at the English Revolution opposed the government of James II. The Whig party in America favored a protective tariff, and a United States bank. Gen. Scott was their last candidate for President (1852).

Whistle. To PAY TOO DEARLY FOR THE WHISTLE. Dr. Franklin tells a story of buying a whistle, when a boy, for four times its value. Hence, something which does not equal our expectations, though costly.

White Elephant. Something one does not know what to do with. The king of Siam sends a white elephant to a courtier whose fortune he wishes to destroy, as a white elephant must be kept in royal style.

White Feather, To show the. To display cowardice. A white feather in a bird marks a cross breed, and is not found on a game-cock.

White House. The residence, of white color, of the President of the United States at Washington.

White Stone. A DAY TO BE MARKED WITH A WHITE STONE is a day to be pleasantly remembered. The ancient Romans marked a lucky day on the calendar with a white stone; an unlucky day with charcoal.

Whiteboys. A secret organization who engaged in "agrarian outrages" in Ireland in 1761; so called from wearing white overgarments.

Whitehall. A region in Westminster, London, where the royal palace formerly stood; but now a thoroughfare.

Wild Huntsman, The. In German legend a spectral huntsman in the Black Forest. The English name is "Herne the Hunter."

Windmills, To fight with. To oppose imaginary objects; to fight with crotchets. The phrase comes from Don Quixote's adventure in assailing windmills, which he mistook for giants.

Windsor Castle. A famous royal castle and residence near London.

Wise Men of the East, The. The three Magi who were guided by the star of Bethlehem to our Saviour's birthplace. (Matth. ii., 1, 2.)

Witch of Endor, The. A soothsayer who, at the request of Saul, on the eve of his battle with the Philistines, invoked the ghost of Samuel, who foretold the death of Saul.

Witches' Sabbath. The annual midnight gathering of witches and demons.

Wooden Horse, The. After the death of Hector, the Greeks besieging Troy built a gigantic wooden horse, pretending that it was an offering to the gods to insure a safe return to Greece. The horse was filled with Greek warriors; the Trojans dragged it into the city, and at night the Greeks came out of the horse, opened the city gates to their companions, and sacked the town.

Woolsack, To sit on the. To be Lord Chancellor of England, presiding officer of the House of Lords. His seat, the *woolsack*, is a mere bag of wool.

Wyoming Massacre. A band of British and Indians ravaged the valley of Wyoming in 1778.

X

Xanthos. The prophetic horse of Achilles in the Trojan war.

Xantippe. The wife of Socrates, an intolerable scold. A byword of shrewishness.

Y

Yahoo. A rowdy; a brutal, ill-bred man. The Yahoos in Swift's *Gulliver's Travels* are brutes with the shapes of men.

Yankee. An American. In America itself a nickname of a New Englander. Jonathan Hastings, a Cambridge, Mass., farmer, in the eight-

eenth century, used the word to denote excellence: a *Yankee* good horse, or *Yankee* cider meant an excellent good horse or excellent cider. According to another explanation, the word is a corrupted Indian form of *English*.

Yankee Doodle. An American national air, of pre-Revolutionary origin.

Yarmouth Bloater. A red herring. Yarmouth, England, is noted for them.

Yellow Jack. A slang term for the yellow fever, alluding to the Yellow Jack, i. e. flag over vessels in quarantine, marine hospitals, etc.

Yggdrasil. (Icel., Odin's sill.) In Scandinavian mythology, the world-tree, an ash whose branches and roots connect heaven (Asa gods), earth (Frost Giants) and the underworld. The serpent Nithöggr gnaws its roots.

Yosem'itē Valley, in California, famous for its magnificent scenery; also a well-known picture by the American artist, Bierstadt.

Young America. The younger generation in America.

Young Chevalier. Charles Edward Stuart, the second, or Young Pretender to the throne of Great Britain (1720–88).

Young Germany. The literary school of Heinrich Heine (1799–1856) and his followers.

Yule. (O.E., *geól*, M.E., *yole*, December.) Christmas.

Yule-log. A huge log of wood put on the hearth fire at Christmas.

Z

Zend Avesta. The sacred scriptures, in the Zend language, of the Zoroastrians. Avesta means "text," and Zend, "translation."

Zodiac. An imaginary belt in the heavens, divided into twelve equal parts, with a sign, or constellation, for each. The six signs north of the equator are (the names being Latin): *Aries*, "the ram;" *Taurus*, "the bull;" *Gemini*, "the twins;" *Cancer*, "the crab;" *Leo*, "the lion;" *Virgo*, "the virgin." The six signs south of the equator are: *Libra*, "the balance;" *Scorpio*, "the scorpion;" *Sagittarius*, "the archer;" *Capricornus*, "the goat;" *Aquarius*, "the water-carrier;" and *Pisces*, "the fishes." In groups of three, they are the signs for spring, summer, autumn, and winter, respectively.

Zollverein. (Germ., *zoll*, "custom," + *verein*, "union.") A tariff union of German States to maintain uniform tariff rates.

A MANNER OF FORECASTING WEATHER

ALMANAC predictions can be nothing but conjecture, the earth's subjection to many unknowable and undeterminable forces rendering such calculations impossible. It is practicable, however, by the following rules, drawn from actual results during very many years and applied with due regard to the subjects of solar and lunar attraction with reference to this planet, to foresee the kind of weather most likely to follow the moon's change of phase:

Prognostications.

If New Moon, First Quarter, Full Moon or Last Quarter happens	In Summer.	In Winter.
Between midnight and 2 A.M.	Fair.....(1 and 2)	Frost, unless wind is S. W. (7)
" 2 " 4 "	Cold and showers....	Snow and stormy.
" 4 " 6 "	Rain.....	Rain.
" 6 " 8 "	Wind and rain.....	Stormy.
" 8 " 10 "	Changeable.....	Cold rain if wind W., snow if E.
" 10 " 12 "	Frequent showers. (3)	Cold and high wind.
" 12 " 2 P.M.	Very rainy.....(4)	Snow or rain.
" 2 " 4 "	Changeable .....(5)	Fair and mild.
" 4 " 6 "	Fair.....	Fair.
" 6 " 8 "	Fair if wind N. W...	Fair and frosty if wind N. or N. E.
" 8 " 10 "	Rainy if S., or S. W..	Rain or snow if S. or S. W.
" 10 " midnight	Fair.....	Fair and frosty.

Observations.—1. The nearer the moon's change, first quarter, full and last quarter to midnight, the fairer will be the weather during the next seven days.

2. The space for this calculation occupies from ten at night till two next morning.

3. The nearer to midday or noon the phase of the moon happens, the more foul or wet weather may be expected during the next seven days.

4. The space for this calculation occupies from ten in the forenoon to two in the afternoon. These observations refer principally to summer, though they affect spring and autumn in the same ratio.

5. The moon's change, first quarter, full and last quarter happening during six of the afternoon hours, i. e., from four to ten, may be followed by fair weather, but this is mostly dependent on the wind, as is noted in the table.

6. Though the weather, from a variety of irregular causes, is more uncertain in the latter part of autumn, the whole of winter and the beginning of spring, yet, in the main, the above observations will apply to these periods also.

7. To prognosticate correctly, especially in those cases where the wind is concerned, the observer should be within sight of a vane where the four cardinal points of the compass are correctly placed.

Language of the Flowers

A CLUSTER of flowers can be made to express any sentiment if care is taken in the selection.

If a flower is offered reversed, its original signification is contradicted, and the opposite implied.

A rosebud divested of thorns, but retaining leaves, conveys the sentiment, "I fear no longer; I hope." Stripped of leaves and thorns, it signifies, "There is nothing to hope or fear."

A full-blown rose, placed over two buds, signifies "Secrecy."

"Yes" is implied by touching the flower given to the lips; "No," by pinching off a petal and casting it away.

"I am" is expressed by a laurel leaf twined around the bouquet; "I have," by an ivy leaf folded together; "I offer you," by a leaf of Virginia creeper.

SINGLE FLOWERS

Arbor Vitæ—Unchanging friendship.
Camelia, White—Loveliness.
Candy-Tuft—Indifference.
Carnation, White—Disdain.
China Aster—Variety.
Clover, Four-Leaf—Be mine.
Clover, White—Think of me.
Clover, Red—Industry.
Columbine—Folly.
Daisy—Innocence.
Daisy, Colored—Beauty.
Dead Leaves—Sadness.
Deadly Nightshade—Falsehood.
Fern—Fascination.
Forget-me-not.
Fuchsia, Scarlet—Taste.
Geranium, Horseshoe—Stupidity.
Geranium, Scarlet—Consolation.
Geranium, Rose—Preference.
Golden-rod—Be cautious.
Heliatrope—Devotion.
Hyacinth, White—Loveliness.
Hyacinth, Purple—Sorrow.
Ivy—Friendship.
Lily, Day—Coquetry.
Lily, White—Sweetness.
Lily, Yellow—Gayety.
Lily, Water—Purity of heart.
Lily of the Valley—Unconscious sweetness.
Mignonette—Your qualities surpass your charms.
Monkshead—Danger is near.
Myrtle—Love.
Oak—Hospitality.
Orange Blossoms—Chastity.
Pansy—Thoughts.
Passion Flower—Faith.
Primrose—Inconstancy.
Rose—Love.
Rose, Damask—Beauty ever new.
Rose, Yellow—Jealousy.
Rose, White—I am worthy of you.
Rosebud, Moss—Confession of Love.
Smilax—Constancy.
Straw—Agreement.
Straw, Broken—Broken Agreement.
Sweet Pea—Depart.
Thistle—Sternness.
Tuberose—Dangerous Pleasures.
Verbena—Pray for me.
White Jasmine—Amiability.
Witch Hazel—A spell.

IN COMBINATIONS

Moss Rosebud, Myrtle. — A confession of love.

Mignonette, Colored Daisy. — Your qualities surpass your charms of beauty.

Lily of the Valley Ferns. — Your unconscious sweetness has fascinated me.

Yellow Rose, Broken Straw, Ivy. — Your jealousy has broken our friendship.

Scarlet Geranium, Passion Flower, Purple Hyacinth, Arbor Vitæ. — I trust you will find consolation, through faith, in your sorrow; be assured of my unchanging friendship.

Columbine, Day Lily, Broken Straw, Witch Hazel, Colored Daisy. — Your folly and coquetry have broken the spell of your beauty.

White Pink, Canary Grass, Laurel. — Your talent and perseverance will win you glory.

Golden-rod, Monkshead, Sweet Pea, Forget-me-not. — Be cautious; danger is near; I depart soon; forget-me-not.

Certain flowers symbolize the months of the year.

Snowdrop	January	Water-lily	July
Primrose	February	Poppy	August
Violet	March	Morning-glory	September
Daisy	April	Hops	October
Hawthorn	May	Chrysanthemum	November
Honeysuckle	June	Holly	December

Language of Gems

Marvelous properties were attributed to many precious stones and gems by the ancients, and it is customary among lovers and friends to notice the significance attached to various stones in making birthday, engagement, and wedding presents.

Agate—Insures health, long life, and prosperity.
Amethyst—Preventive against violent passions.
Beryl—Everlasting youth and happiness.
Bloodstone—Steadfast affection, courage, and wisdom.
Carnelian—Preventive of misfortune.
Catseye—Warns against danger and trouble.
Chalcedony—Drives away sadness.
Chrysolite—Frees from evil passions and melancholy.
Diamond—Signifies purity; maintains peace and disperses storms.
Emerald—Discovers false friends and insures true love.
Garnet—Constancy and fidelity.
Jasper—Wisdom and courage.
Moonstone—Good luck.
Onyx—Insures conjugal felicity.
Opal—An "unlucky" stone portending injury and mental or physical trouble.
Pearl—Signifies purity and innocence.
Ruby—Discovers poison, corrects evils resulting from mistaken friendship.
Sapphire—Frees from enchantment; denotes repentance.
Sardonyx—Married happiness.
Topaz—Fidelity and friendship; prevents bad dreams.
Turquoise—Prosperity in love.

BIRTH STONES

Garnet	January	Ruby or Onyx	July
Amethyst	February	Sardonyx	August
Bloodstone or Jasper	March	Chrysolite	September
Diamond or Sapphire	April	Opal or Beryl	October
Emerald or Carnelian	May	Topaz	November
Agate or Chalcedony	June	Turquoise or Ruby	December

BIRTH DAYS

Monday's child is fair of face;
Tuesday's child is full of grace;
Wednesday's child is loving and giving;
Thursday's child works hard for its living;
Friday's child is full of woe;
Saturday's child has far to go;
But the child that's born on the Sabbath day
Is blithe and bonny and good and gay

THE WORLD
On Mercator Projection.
United States
Great Britain
Germany
France
Italy
Cables
Netherlands
Spain
Portugal
Denmark
Oceanic Routes and Distances
ARCTIC OCEAN
PACIFIC OCEAN
ATLANTIC OCEAN
INDIAN OCEAN
NORTH AMERICA
SOUTH AMERICA
EUROPE
ASIA
AUSTRALIA
AFRICA
RUSSIAN EMPIRE
BERING SEA
BAFFIN BAY
GREENLAND
ICELAND
BRITISH ISLES
FRANCE
SPAIN
PORTUGAL
GERMANY
RUSSIAN EMPIRE
TURKISTAN
SIBERIA
ARABIA
INDIA
CHINA
MONGOLIA
JAPAN
PHILIPPINES
NEW ZEALAND
MADAGASCAR
CUBA
MEXICO
BRAZIL
ARGENTINA
CHILE
PERU
EQUATOR
TROPIC OF CANCER
TROPIC OF CAPRICORN
ST. PETERSBURG
BERLIN
PARIS
LONDON
WASHINGTON
NEW YORK
BUENOS AIRES
RIO DE JANEIRO
CAPE TOWN
SYDNEY
MELBOURNE
L.L. POATES, ENGR. CO., N.Y.

127
A
122
B
117
C
112
D
107
E
102
DOMINION
Assiniboine R.
Regina
Saskatchewan R.
Fort Buford
Dickinson
Mandan
Bismarck
Missouri R.
Yellowstone R.
Glasgow
Ft. Assiniboine
Milk R.
Great Falls
Shelby
Marias R.
Medicine L.
Teton R.
Helena
Missoula
Flathead R.
Kootenai R.
Kootenai L.
Pend Oreille L.
Spokane
Coeur d'Alene
Palouse R.
Snake R.
Lewiston
Grande Ronde R.
Wallowa L.
Wallowa Mts.
Blue Mts.
Pendleton
Umatilla
Walla Walla
Columbia R.
Yakima
Ellensburg
Cascade Mts.
Wenatchee
Okanogan
Nicola L.
Kamloops L.
Thompson R.
Fraser R.
Vancouver
Victoria
Port Townsend
Seattle
Tacoma
Olympia
Aberdeen
Cape Flattery
Str. of Juan de Fuca
C. Disappointment
Astoria
Portland
McMinnville
Salem
Albany
Corvallis
Eugene
Willamette R.
Umpqua R.
Roseburg
Coos Bay
Rogue R.
Grants Pass
Crescent City
Klamath R.
Klamath L.
Albert L.
Goose L.
Harney L.
Harney
Malheur L.
Malheur R.
Owyhee R.
Owyhee
Boise
Idaho City
Boise R.
Payette R.
Weiser
Payette
Ontario
Snake R.
Shoshone Falls
Twin Falls
Bellevue
Hailey
Sawtooth Mts.
Challis
Salmon
Salmon R.
Lemhi R.
Lemhi Mts.
Bitterroot Mts.
Bitterroot R.
Hamilton
Missoula
Deer Lodge
Anaconda
Butte
Boseman
Bozeman Pass
Yellowstone Park
Livingston
Billings
Big Horn R.
Big Horn Mts.
Little Missouri R.
Belle Fourche R.
Belle Fourche
Redbodge
Miles City
Glendive
Yellowstone R.
Powder R.
Powder River
Tongue R.
Tongue River
Rosebud Creek
Rosebud
Big Horn R.
Big Horn Mts.
Buffalo
Deadwood
Newcastle
Wind River Mts.
Wind River
Sweetwater R.
Sweetwater
Rock Springs
Green River
Evanston
Bear R.
Bear L.
Great Salt Lake
Salt Lake City
Park City
Provo
Utah L.
Provo R.
Uinta Mts.
Uinta R.
Duchesne R.
Duchesne
Price R.
Price
Castle Gate
Casper
North Platte R.
Platte R.
Laramie
Cheyenne
Fort Collins
Greeley
Denver
Colorado Springs
Pueblo
Arkansas R.
Canon City
Triple Creek
Lajunta
Trinidad
Dodge City
Smoky Hill R.
Republican R.
Solomon R.
Kansas R.
Topeka
Junction City
Abilene
Salina
Ellsworth
Hutchinson
Arkansas R.
Wichita
Winfield
Arkansas City
Oklahoma
Guthrie
Kingfisher
Canadian R.
Canadian
Red R.
Texas
Amarillo
Clarendon
Wichita Falls
Fort Worth
Dallas
Waco
Austin
Colorado R.
Brazos R.
Galveston
Houston
Beaumont
Sabine R.
Sabine Pass
Sabine L.
Calcasieu L.
Calcasieu R.
Lake Charles
Vermilion Bay
Atchafalaya R.
Atchafalaya Bay
Terrebonne Bay
Timbalier Bay
Barataria Bay
Barataria L.
Lake Pontchartrain
Lake Borgne
Mississippi R.
Mississippi Sound
Mobile Bay
Mobile
Pascagoula
Biloxi
Gulf of Mexico
Gulf of California
Lower California
Guaymas
Chihuahua
Durango
Mazatlan
Culiacan
C. San Lucas
Monterey
Tampico
Rio Grande
Rio Grande R.
Pecos R.
Pecos
Toyah
Toyah Creek
Ft. Stockton
Ft. Davis
Ft. Quitman
Ft. Hancock
El Paso
Juarez
Presidio
Presidio del Norte
Eagle Pass
Laredo
Brownsville
Matamoras
Corpus Christi
Aransas Pass
Aransas Bay
Copano Bay
Mesquite
Rockport
Indianola
Matagorda Bay
Matagorda
Velasco
Galveston
Houston
Beaumont
Sabine Pass
Sabine L.
Calcasieu L

UNITED STATES
Scale of Miles
0 50 100 200 300 400
* Important Towns are shown in Bold Face Type
CANADA
MAINE
VERMONT
NEW HAMPSHIRE
MASSACHUSETTS
RHODE ISLAND
CONNECTICUT
NEW YORK
PENNSYLVANIA
NEW JERSEY
DELAWARE
MARYLAND
VIRGINIA
WEST VIRGINIA
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
FLORIDA
OHIO
INDIANA
ILLINOIS
MICHIGAN
WISCONSIN
MINNESOTA
IOWA
MISSOURI
KENTUCKY
TENNESSEE
MISSISSIPPI
ALABAMA
LOUISIANA
ARKANSAS
KANSAS
NEBRASKA
SOUTH DAKOTA
NORTH DAKOTA
OKLAHOMA
TEXAS
COLORADO
WYOMING
MONTANA
IDAHO
NEW MEXICO
ARIZONA
UTAH
NEVADA
OREGON
WASHINGTON
CALIFORNIA
ATLANTIC OCEAN
GULF OF MEXICO
CUBA
BAHAMA ISLANDS
Lake Superior
Lake Michigan
Lake Huron
Lake Erie
Lake Ontario
Hudson Bay
Gulf of St. Lawrence
Chesapeake Bay
Delaware Bay
Florida Straits
Mississippi R.
Ohio R.
Missouri R.
Rio Grande
Colorado R.
Columbia R.
Ottawa R.
St. Lawrence R.
Potomac R.
Hudson R.
Boston
New York
Philadelphia
Baltimore
Washington
Chicago
St. Louis
Cincinnati
Pittsburg
Cleveland
Detroit
Buffalo
Toronto
Montreal
Quebec
New Orleans
Galveston
Key West
Havana
Nassau
Miami
Tampa
Jacksonville
Savannah
Charleston
Wilmington
Norfolk
Richmond
Atlanta
Memphis
Nashville
Louisville
Indianapolis
Milwaukee
Minneapolis
St. Paul
Duluth
Omaha
Kansas City
Denver
Salt Lake City
San Francisco
Los Angeles
Portland
Seattle
Spokane
Winnipeg
Halifax
St. John
Portland
Concord
Providence
Newport
Hartford
New Haven
Albany
Trenton
Wilmington
Annapolis
Dover
Augusta
Montpelier
Burlington
Lansing
Columbus
Springfield
Frankfort
Jefferson City
Topeka
Lincoln
Des Moines
Madison
Pierre
Bismarck
Cheyenne
Boise
Helena
Carson City
Salem
Olympia
Santa Fe
Phoenix
Austin
Oklahoma
Little Rock
Jackson
Montgomery
Tallahassee
Raleigh
Columbia
Frankfort
Charleston
Dover
Annapolis
Trenton
Albany
Boston
Concord
Augusta
Montpelier
Providence
Hartford
New Haven
Newport
Nantucket
Martha's Vineyard
Block Island
Long Island
Manhattan
Staten Island
Brooklyn
Jersey City
Newark
Philadelphia
Baltimore
Washington
Richmond
Norfolk
Portsmouth
Charleston
Savannah
Jacksonville
Tampa
Key West
Havana
Nassau
Miami
Palm Beach
Bahama I.
Eleuthera I.
New Providence
Watling I.
Andros I.
Cuba
Bermuda
Greenwich
Meridian
Equator
Tropic of Cancer
Arctic Circle
Antarctic Circle
Prime Meridian
International Date Line
Time Zones
Standard Time
Daylight Saving Time
Eastern Standard Time
Central Standard Time
Mountain Standard Time
Pacific Standard Time
Alaska Standard Time
Hawaii Standard Time
Atlantic Standard Time
Newfoundland Standard Time
Greenwich Mean Time
Local Time
Noon
Midnight
Sunrise
Sunset
Twilight
Daylight
Darkness
Solstice
Equinox
Perihelion
Aphelion
Ecliptic
Zodiac
Aries
Taurus
Gemini
Cancer
Leo
Virgo
Libra
Scorpio
Sagittarius
Capricorn
Aquarius
Pisces
Vernal Equinox
Autumnal Equinox
Summer Solstice
Winter Solstice
Precession of the Equinoxes
Nutation
Aberration
Parallax
Refraction
Zenith
Nadir
Meridian
Horizon
Celestial Sphere
Celestial Equator
Celestial Poles
Celestial Meridian
Celestial Horizon
Celestial Latitude
Celestial Longitude
Right Ascension
Declination
Hour Angle
Sidereal Time
Solar Time
Mean Solar Time
Apparent Solar Time
Equation of Time
Sidereal Day
Solar Day
Mean Solar Day
Apparent Solar Day
Sidereal Year
Tropical Year
Anomalistic Year
Eclipse
Solar Eclipse
Lunar Eclipse
Total Eclipse
Partial Eclipse
Annular Eclipse
Penumbra
Umbra
Corona
Chromosphere
Photosphere
Sunspots
Solar Prominences
Solar Flares
Solar Wind
Magnetic Storms
Aurora Borealis
Aurora Australis
Zodiacal Light
Gegenschein
Meteors
Meteorites
Fireballs
Shooting Stars
Comets
Asteroids
Planets
Mercury
Venus
Earth
Mars
Jupiter
Saturn
Uranus
Neptune
Pluto
Moon
Phases of the Moon
New Moon
First Quarter
Full Moon
Last Quarter
Lunar Month
Synodic Month
Sidereal Month
Tropical Month
Anomalistic Month
Lunar Cycle
Metonic Cycle
Saros
Solar System
Sun
Milky Way
Galaxy
Nebula
Star Cluster
Double Star
Variable Star
Nova
Supernova
Pulsar
Quasar
Black Hole
Big Bang
Expanding Universe
Steady State Theory
Oscillating Universe
Cosmology
Astronomy
Astrophysics
Celestial Mechanics
Gravitation
Kepler's Laws
Newton's Laws
Einstein's Theory of Relativity
Special Relativity
General Relativity
Mass-Energy Equivalence
Speed of Light
Light Year
Parsec
Astronomical Unit
Constellations
Ursa Major
Ursa Minor
Cassiopeia
Orion
Taurus
Gemini
Cancer
Leo
Virgo
Libra
Scorpio
Sagittarius
Capricorn
Aquarius
Pisces
Andromeda
Perseus
Auriga
Lyra
Cygnus
Aquila
Hercules
Bootes
Corona Borealis
Serpens
Ophiuchus
Scorpius
Sagittarius
Capricorn
Aquarius
Pisces
Cetus
Eridanus
Lepus
Canis Major
Canis Minor
Hydra
Crater
Corvus
Centaurus
Lupus
Ara
Triangulum Australe
Crux
Carina
Vela
Puppis
Pyxis
Antlia
Hydrus
Octans
Chamaeleon
Volans
Dorado
Mensa
Pictor
Reticulum
Horologium
Eridanus
Fornax
Sculptor
Phoenix
Grus
Tucana
Indus
Pavo
Telescopium
Corona Australis
Microscopium
Piscis Austrinus
Sagitta
Vulpecula
Delphinus
Equuleus
Pegasus
Lacerta
Cepheus
Draco
Camelopardalis
Lynx
Leo Minor
Coma Berenices
Canes Venatici
Ursa Major
Ursa Minor
Cassiopeia
Andromeda
Perseus
Auriga
Lyra
Cygnus
Aquila
Hercules
Bootes
Corona Borealis
Serpens
Ophiuchus
Scorpius
Sagittarius
Capricorn
Aquarius
Pisces
Cetus
Eridanus
Lepus
Canis Major
Canis Minor
Hydra
Crater
Corvus
Centaurus
Lupus
Ara
Triangulum Australe
Crux
Carina
Vela
Puppis
Pyxis
Antlia
Hydrus
Octans
Chamaeleon
Volans
Dorado
Mensa
Pictor
Reticulum
Horologium
Eridanus
Fornax
Sculptor
Phoenix
Grus
Tucana
Indus
Pavo
Telescopium
Corona Australis
Microscopium
Piscis Austrinus
Sagitta
Vulpecula
Delphinus
Equuleus
Pegasus
Lacerta
Cepheus
Draco
Camelopardalis
Lynx
Leo Minor
Coma Berenices
Canes Venatici

MAP OF THE WORLD ON THE EQUIVALENT PROJECTION

EXPLANATORY NOTE

This new map presents a comprehensive view of the superficial area of the earth, not unlike that which would be displayed by the printed cover of a globe, if removed and flattened.

On this map all areas appear in their true proportion. For example, Greenland, which, on Mercator's Projection, seems to be larger than South America, here is shown in its relative proportion of size to that continent, having less than one-eighth of the latter's area. In fact, this is the only projection in which are shown the equivalent areas, or correct sizes, of all parts of the globe, in their proper relative position.

The meridians are placed fifteen degrees apart, and, since this interval is equal to one hour of time, meridians and intervals make a standard time-map for the whole earth.

FEATURES

Submarine Cables, shown in fine black lines.

The International Date Line, as agreed upon by leading nations, shown in heavy broken lines.

Colonial possessions of European powers in Africa, Asia and Oceania, shown in colors corresponding with those used for mother countries

1910 CENSUS

UNITED STATES AND TERRITORIES

States and Territories	Population			Pr. Ct. Increase	
	1910	1900	1890	1900 to 1910	1890 to 1900
Alabama	2,138,093	1,828,697	1,513,401	16.9	20.8
Arizona	204,354	122,931	88,243	66.2	39.3
Arkansas	1,574,449	1,311,564	1,128,211	20.0	16.3
California	2,377,549	1,485,053	1,213,398	60.1	22.4
Colorado	799,024	539,700	413,249	48.0	30.6
Connecticut	1,114,756	908,420	746,258	22.7	21.7
Delaware	202,322	184,735	168,493	9.5	9.6
District of Columbia	331,069	278,718	230,392	18.8	21.0
Florida	752,619	528,542	391,422	42.4	35.0
Georgia	2,609,121	2,216,331	1,837,353	17.7	20.6
Idaho	325,594	161,772	88,548	101.3	82.7
Illinois	5,638,591	4,821,550	3,826,352	16.9	26.0
Indiana	2,700,876	2,516,462	2,192,404	7.3	a 14.8
Iowa	2,224,771	2,231,853	1,912,297	a0.3	16.7
Kansas	1,690,949	1,470,495	1,428,108	15.0	3.0
Kentucky	2,289,905	2,147,174	1,858,635	6.6	15.5
Louisiana	1,656,388	1,381,625	1,118,588	19.9	23.5
Maine	742,371	694,466	661,086	6.9	5.0
Maryland	1,295,346	1,188,044	1,042,390	9.0	14.0
Massachusetts	3,366,416	2,805,346	2,238,947	20.0	25.3
Michigan	2,810,173	2,420,982	2,093,890	16.1	15.6
Minnesota	2,075,708	1,751,394	1,310,283	18.5	33.7
Mississippi	1,797,114	1,551,270	1,289,600	15.8	20.3
Missouri	3,293,335	3,106,665	2,679,185	6.0	16.0
Montana	376,053	243,329	142,924	54.5	70.3
Nebraska	1,192,214	1,066,300	1,062,656	11.8	0.3
Nevada	81,875	42,335	47,355	93.4	a10.6
New Hampshire	430,572	411,588	376,530	4.6	9.3
New Jersey	2,537,167	1,883,669	1,444,933	34.7	30.4
New Mexico	327,301	195,310	160,282	67.5	21.9
New York	9,113,614	7,268,894	6,003,174	25.4	21.1
North Carolina	2,206,287	1,893,810	1,617,949	16.5	17.1
North Dakota	577,056	319,146	190,983	80.8	67.1
Ohio	4,767,121	4,157,545	3,672,329	14.7	13.2
Oklahoma	1,657,155	b 790,391	b 258,657	b109.7	b205.6
Oregon	672,765	413,536	317,704	62.7	30.2
Pennsylvania	7,665,111	6,302,115	5,258,113	21.6	19.9
Rhode Island	542,610	428,556	345,506	26.6	24.0
South Carolina	1,515,400	1,340,316	1,151,149	13.1	16.4
South Dakota	583,888	401,570	348,600	45.4	15.2
Tennessee	2,184,789	2,020,616	1,767,518	8.1	14.3
Texas	3,896,542	3,048,710	2,235,527	27.8	36.4
Utah	373,351	276,749	210,779	34.9	31.3
Vermont	355,956	343,641	332,422	3.6	3.4
Virginia	2,061,612	1,854,184	1,655,980	11.2	12.0
Washington	1,141,990	518,103	357,232	120.4	45.0
West Virginia	1,221,119	958,800	762,794	27.4	25.7
Wisconsin	2,333,860	2,069,042	1,693,330	12.8	22.2
Wyoming	145,965	92,531	62,555	57.7	47.9
Continental U. S.	91,972,266	75,994,575	62,947,714	21.0	20.7
Alaska	64,356	63,592	32,052	1.2	98.4
Hawaii	191,909	154,001	89,990	24.6	71.1
Porto Rico	1,118,012	c 953,243	.....	.....	.....
Military and Naval	55,608	91,219	.....	.....	.....
U. S. including dependencies named above.	93,402,151	77,256,630	63,069,756	20.9	(d)

(a) Decrease. (b) For purposes of comparison the 1900 population figures of Oklahoma and Indian Territory are combined. (c) 1899. (d) In the last line of this table the 1900 and 1890 population figures do not include Porto Rico.

STATES BY COUNTIES

ALABAMA

COUNTY	1910	1900	1890
Autauga	20,038	17,915	13,330
Baldwin	18,178	13,194	8,941
Barbour	32,728	35,152	34,898
Bibb	22,791	18,498	13,824
Blount	21,456	23,119	21,927
Bullock	30,196	31,944	27,063
Butler	29,030	25,761	21,641
Calhoun	39,115	34,874	33,835
Chambers	36,056	32,554	26,319
Cherokee	20,226	21,096	20,459
Chilton	23,187	16,522	14,549
Choctaw	18,483	18,136	17,526
Clarke	30,987	27,790	22,624
Clay	21,006	17,099	15,765
Cleburne	13,385	13,206	13,218
Coffee	26,119	20,972	12,170
Colbert	24,802	22,341	20,189
Conecuh	21,433	17,514	14,594
Coosa	16,634	16,144	15,906
Covington	32,124	15,346	7,536
Crenshaw	23,313	19,668	15,425
Cullman	28,321	17,849	13,439
Dale	21,608	21,189	17,225
Dallas	53,401	54,657	49,350
Dekalb	28,261	23,558	21,106
Elmore	28,245	26,099	21,732
Escambia	18,889	11,320	8,666
Etowah	39,109	27,361	21,926
Fayette	16,248	14,132	12,823
Franklin	19,369	16,511	10,681
Geneva	26,230	19,096	10,690
Greene	22,717	24,182	22,007
Hale	27,883	31,011	27,501
Henry	20,943	36,147	24,847
Houston	32,414	.....	.....
Jackson	32,918	30,508	28,026
Jefferson	226,476	140,420	88,501
Lamar	17,487	16,084	14,187
Lauderdale	30,936	26,559	23,739
Lawrence	21,984	20,124	20,725
Lee	32,867	31,826	28,694
Limestone	26,880	22,387	21,201
Lowndes	31,894	35,651	31,550
Macon	26,049	23,126	18,439
Madison	47,041	43,702	38,119
Marengo	39,923	38,315	33,095
Marion	17,495	14,494	11,347
Marshall	28,553	23,289	18,935
Mobile	80,854	62,740	51,587
Monroe	27,155	23,666	18,990
Montgomery	82,178	72,047	56,172
Morgan	33,781	28,820	24,089
Perry	31,222	31,783	29,332
Pickens	25,055	24,402	22,470
Pike	30,815	29,172	24,423
Randolph	24,659	21,647	17,219
Russell	25,937	27,083	24,093
St. Clair	20,715	19,425	17,353
Shelby	26,949	23,684	20,886
Sumter	28,699	32,710	29,574
Talladega	37,921	35,773	29,346
Tallapoosa	31,034	29,675	25,460
Tuscaloosa	47,559	36,147	30,352
Walker	37,013	25,162	16,078

ALABAMA Cont'd.

COUNTY	1910	1900	1890
Washington	14,454	11,134	7,935
Wilcox	33,810	35,631	30,816
Winston	12,855	9,554	6,552
The State	2,138,093	1,828,697	1,513,017

ARIZONA

COUNTY	1910	1900	1890
Apache	9,196	8,297	4,281
Cochise	34,591	9,251	6,938
Coconino	8,130	5,514	.....
Gila	16,348	4,973	2,021
Graham (a)	23,999	14,162	5,670
Maricopa	34,488	20,457	10,986
Mohave	3,773	3,426	1,444
Navajo	14,603	8,829	.....
Pima	19,686	14,689	12,673
Pinal	9,045	7,779	4,251
Santa Cruz	6,766	4,545	.....
Yavapai	15,996	13,799	8,685
Yuma	7,733	4,145	2,671
San Carlos Indian Res.		b3,065	.....
The Territory.	204,354	122,931	59,620

(a) Greenlee County organized from part of Graham County; organization effective January 1, 1911. Estimated population of Greenlee County, 14,818.

(b) In Gila, Graham, and Navajo counties, but the population in each county was not separately returned in 1900.

ARKANSAS

COUNTY	1910	1900	1890
Arkansas	16,103	12,973	11,432
Ashley	25,268	19,734	13,295
Baxter	10,389	9,298	8,527
Benton	33,389	31,611	27,716
Boone	14,318	16,396	15,816
Bradley	14,518	9,651	7,972
Calhoun	9,894	8,539	7,267
Carroll	16,829	18,848	17,288
Chicot	21,987	14,528	11,419
Clark	23,686	21,289	20,997
Clay	23,690	15,886	12,200
Cleburne	11,903	9,628	7,884
Cleveland	13,481	11,620	11,362
Columbia	23,820	22,077	19,893
Conway	22,729	19,772	19,459
Craighead	27,627	19,505	12,025
Crawford	23,942	21,270	21,714
Crittenden	22,447	14,529	13,940
Cross	14,042	11,051	7,693
Dallas	12,621	11,518	9,296
Desha	15,274	11,511	10,324
Drew	21,960	19,451	17 352
Faulkner	23,708	20,780	18 342
Franklin	20,638	17,395	19,934
Fulton	12,193	12,917	10,984
Garland	27,271	18,773	15,328

ARKANSAS Cont'd.

COUNTY	1910	1900	1890
Grant	9,425	7,671	7,786
Greene	23,852	16,979	12,908
Hempstead	28,285	24,101	22,796
Hot Spring	15,022	12,748	11,603
Howard	16,898	14,076	13,789
Independence	24,776	22,557	21,961
Izard	14,561	13,506	13,038
Jackson	23,501	18,383	15,179
Jefferson	52,734	40,972	40,881
Johnson	19,698	17,448	16,758
Lafayette	13,741	10,594	7,700
Lawrence	20,001	16,491	12,984
Lee	24,252	19,409	18,886
Lincoln	15,118	13,389	10,255
Little River	13,597	13,731	8,903
Logan	26,350	20,563	20,774
Lonoke	27,983	22,544	19,263
Madison	16,056	19,864	17,402
Marion	10,203	11,377	10,390
Miller	19,555	17,558	14,714
Mississippi	30,468	16,384	11,635
Monroe	19,907	16,816	15,336
Montgomery	12,455	9,444	7,923
Nevada	19,344	16,609	14,832
Newton	10,612	12,538	9,950
Ouachita	21,774	20,892	17,033
Perry	9,402	7,294	5,538
Phillips	33,535	26,561	25,341
Pike	12,565	10,301	8,537
Poinsett	12,791	7,025	4,272
Polk	17,216	18,352	9,283
Pope	24,527	21,715	19,458
Prairie	13,853	11,875	11,374
Pulaski	86,751	63,179	47,329
Randolph	18,987	17,156	14,485
St. Francis	22,548	17,157	13,543
Saline	16,657	13,122	11,311
Scott	14,302	13,183	12,635
Searcy	14,825	11,988	9,664
Sebastian	52,278	36,935	33,200
Sevier	16,616	16,339	10,072
Sharp	11,688	12,199	10,418
Stone	8,946	8,100	7,043
Union	30,723	22,495	14,977
Van Buren	13,509	11,220	8,567
Washington	33,889	34,256	32,024
White	28,574	24,864	22,946
Woodruff	20,049	16,304	14,009
Yell	26,323	22,750	18,015
The State	1,574,449	1,311,564	1,128,179

CALIFORNIA

COUNTY	1910	1900	1890
Alameda	246,131	130,197	93,864
Alpine	309	509	667
Amador	9,086	11,116	10,320
Butte	27,301	17,117	17,939
Calaveras	9,171	11,200	8,882
Colusa	7,732	7,364	14,640
Contra Costa	31,674	18,046	13,515
Del Norte	2,417	2,408	2,592
Eldorado	7,492	8,986	9,232
Fresno	75,657	37,862	32,026
Glenn	7,172	5,150	.....

CALIFORNIA Cont'd.

COUNTY	1910	1900	1890
Humboldt	33,857	27,104	23,469
Imperial	13,591	.....	.....
Inyo	6,974	4,377	3,544
Kern	37,715	16,480	9,808
Kings	16,230	9,871	.....
Lake	5,526	6,017	7,101
Lassen	4,802	4,511	4,239
Los Angeles	504,131	170,298	101,454
Madera	8,368	6,364	.....
Marin	25,114	15,702	13,072
Mariposa	3,956	4,720	3,787
Mendocino	23,929	20,465	17,612
Merced	15,148	9,215	8,085
Modoc	6,191	5,076	4,986
Mono	2,042	2,167	2,002
Monterey	24,146	19,380	18,637
Napa	19,800	16,451	16,411
Nevada	14,955	17,789	17,369
Orange	34,436	19,696	13,589
Placer	18,237	15,786	15,101
Plumas	5,259	4,657	4,933
Riverside	34,696	17,897	.....
Sacramento	67,806	45,915	40,339
San Benito	8,041	6,633	6,412
San Bernardino	56,706	27,929	25,497
San Diego	61,665	35,090	34,987
San Francisco	416,912	342,782	298,997
San Joaquin	50,731	35,452	28,629
San Luis Obispo	19,383	16,637	16,072
San Mateo	26,585	12,094	10,087
Santa Barbara	27,738	18,934	15,754
Santa Clara	83,539	60,216	48,005
Santa Cruz	26,140	21,512	19,270
Shasta	18,920	17,318	12,133
Sierra	4,098	4,017	5,051
Siskiyou	18,801	16,962	12,163
Solano	27,559	24,143	20,946
Sonoma	48,394	38,480	32,721
Stanislaus	22,522	9,550	10,040
Sutter	6,328	5,886	5,469
Tehama	11,401	10,996	9,916
Trinity	3,301	4,383	3,719
Tulare	35,440	18,375	24,574
Tuolumne	9,979	11,166	6,082
Ventura	18,347	14,367	10,071
Yolo	13,926	13,618	12,684
Yuba	10,042	8,620	9,636
The State	2,377,549	1,485,053	1,208,130

COLORADO

COUNTY	1910	1900	1890
Adams	8,892	.....	.....
Arapahoe	10,263	153,017	132,135
Archuleta	3,302	2,117	826
Baca	2,516	759	1,479
Bent	5,043	3,049	1,313
Boulder	30,330	21,544	14,082
Chaffee	7,622	7,085	6,612
Cheyenne	3,687	501	534
Clear Creek	5,001	7,082	7,184
Conejos	11,285	8,794	7,193
Costilla	5,498	4,632	3,491
Custer	1,947	2,937	2,970
Delta	13,688	5,487	2,534
Denver	213,381	.....	.....

STATES BY COUNTIES

COLORADO Cont'd.

COUNTY	1910	1900	1890
Dolores	642	1,134	1,498
Douglas	3,192	3,120	3,006
Eagle	2,985	3,008	3,725
Elbert	5,331	3,101	1,856
El Paso	43,321	31,602	21,239
Fremont	18,181	15,636	9,156
Garfield	10,144	5,835	4,478
Gilpin	4,131	6,690	5,867
Grand	1,862	741	604
Gunnison	5,897	5,331	4,359
Hinsdale	646	1,609	862
Huerfano	13,320	8,395	6,882
Jackson	1,013	.....	.....
Jefferson	14,231	9,306	8,450
Kiowa	2,899	701	1,243
Kit Carson	7,483	1,580	2,472
Lake	10,600	18,054	14,663
La Plata	10,812	7,016	5,509
Larimer	25,270	12,168	9,712
Las Animas	33,643	21,842	17,208
Lincoln	5,917	926	689
Logan	9,549	3,292	3,070
Mesa	22,197	9,267	4,260
Mineral	1,239	1,913	.....
Montezuma	5,029	3,058	1,529
Montrose	10,291	4,535	3,980
Morgan	9,577	3,268	1,601
Otero	20,201	11,522	4,192
Ouray	3,514	4,731	6,510
Park	2,492	2,998	3,548
Phillips	3,179	1,583	2,642
Pitkin	4,566	7,020	8,929
Prowers	9,520	3,766	1,969
Pueblo	52,223	34,448	31,491
Rio Blanco	2,332	1,690	1,200
Rio Grande	6,563	4,080	3,451
Routt	7,561	3,661	2,369
Saguache	4,160	3,853	3,313
San Juan	3,063	2,342	1,572
San Miguel	4,700	5,379	2,909
Sedgwick	3,061	971	1,293
Summit	2,003	2,744	1,906
Teller	14,351	29,002	.....
Washington	6,002	1,241	2,301
Weld	39,177	16,808	11,736
Yuma	8,499	1,729	2,596
The State	799,024	539,700	412,198

CONNECTICUT

COUNTY	1910	1900	1890
Fairfield	245,322	184,203	150,081
Hartford	250,182	195,480	147,180
Litchfield	70,260	63,672	53,542
Middlesex	45,637	41,760	39,524
New Haven	337,282	269,163	209,058
New London	91,253	82,758	76,634
Tolland	26,459	24,523	25,081
Windham	48,361	46,861	45,158
The State	1,114,756	908,420	746,258

DELAWARE

COUNTY	1910	1900	1890
Kent	32,721	32,762	32,664
Newcastle	123,188	109,697	97,182
Sussex	46,413	42,276	38,647
The State	202,322	184,735	168,493

DISTRICT OF COLUMBIA

1910	1900	1890
331,069	278,718	230,392

FLORIDA

COUNTY	1910	1900	1890
Alachua	34,305	32,245	22,934
Baker	4,805	4,516	3,333
Bradford	14,090	10,295	7,516
Brevard	4,717	5,158	3,401
Calhoun	7,465	5,132	1,681
Citrus	6,731	5,391	2,394
Clay	6,116	5,635	5,154
Columbia	17,680	17,094	12,877
Dade	11,933	4,955	861
De Soto	14,200	8,047	4,944
Duval	75,163	39,733	26,800
Escambia	38,029	28,313	20,188
Franklin	5,201	4,890	3,308
Gadsden	22,198	15,294	11,894
Hamilton	11,825	11,881	8,507
Hernando	4,997	3,638	2,476
Hillsboro	78,374	36,013	14,941
Holmes	11,557	7,762	4,336
Jackson	29,821	23,377	17,544
Jefferson	17,210	16,195	15,757
Lafayette	6,710	4,987	3,686
Lake	9,509	7,467	8,034
Lee	6,294	3,071	1,414
Leon	19,427	19,837	17,752
Levy	10,361	8,603	6,586
Liberty	4,700	2,956	1,452
Madison	16,919	15,446	14,316
Manatee	9,550	4,663	2,895
Marion	26,941	24,403	20,796
Monroe	21,563	18,006	18,786
Nassau	10,525	9,654	8,294
Orange	19,107	11,374	12,584
Osceola	5,507	3,444	3,133
Palm Beach	5,577	.....	.....
Pasco	7,502	6,054	4,249
Polk	24,148	12,472	7,905
Putnam	13,096	11,641	11,186
St. John	13,208	9,165	8,712
St. Lucie	4,075	.....	.....
Santa Rosa	14,897	10,293	7,961
Sumter	6,696	6,187	5,363
Suwanee	18,603	14,554	10,524
Taylor	7,103	3,999	2,122
Volusia	16,510	10,003	8,467
Wakulla	4,802	5,149	3,117
Walton	16,460	9,346	4,816
Washington	16,403	10,154	6,426
The State	752,619	528,542	391,422

GEORGIA

COUNTY	1910	1900	1890
Appling	12,318	12,336	8,676
Baker	7,973	6,704	6,144
Baldwin	18,354	17,768	14,608
Banks	11,244	10,545	8,562
Bartow	25,388	20,823	20,616
Ben Hill	11,863	.....	.....
Berrien	22,772	19,440	10,694
Bibb	56,646	50,473	42,370

GEORGIA Cont'd.

COUNTY	1910	1900	1890
Brooks	23,832	18,606	13,979
Bryan	6,702	6,122	5,520
Bulloch	26,464	21,377	13,712
Burke	27,268	30,165	28,501
Butts	13,624	12,805	10,565
Calhoun	11,334	9,274	8,438
Camden	7,690	7,669	6,178
Campbell	10,874	9,518	9,115
Carroll	30,855	26,576	22,301
Catoosa	7,184	5,823	5,431
Charlton	4,722	3,592	3,335
Chatham	79,690	71,239	57,740
Chattahoochee	5,586	5,790	4,902
Chattooga	13,608	12,952	11,202
Cherokee	16,661	15,243	15,412
Clarke	23,273	17,708	15,186
Clay	8,960	8,568	7,817
Clayton	10,453	9,598	8,295
Clinch	8,424	8,732	6,652
Cobb	28,397	24,664	22,286
Coffee	21,953	16,169	10,483
Colquitt	19,789	13,636	4,794
Columbia	12,328	10,653	11,281
Coweta	28,800	24,980	22,354
Crawford	8,310	10,368	9,315
Crisp	16,423	.....	.....
Dade	4,139	4,578	5,707
Dawson	4,686	5,442	5,612
Decatur	29,045	29,454	19,949
Dekalb	27,881	21,112	17,189
Dodge	20,127	13,975	11,452
Dooly	20,554	26,567	18,146
Dougherty	16,035	13,679	12,206
Douglas	8,953	8,745	7,794
Early	18,122	14,828	9,792
Echols	3,309	3,209	3,079
Effingham	9,971	8,334	5,599
Elbert	24,125	19,729	15,376
Emanuel	25,140	21,279	14,703
Fannin	12,574	11,214	8,724
Fayette	10,966	10,114	8,728
Floyd	36,736	33,113	28,391
Forsyth	11,940	11,550	11,155
Franklin	17,894	17,700	14,670
Fulton	177,733	117,363	84,655
Gilmer	9,237	10,198	9,074
Glascock	4,669	4,516	3,720
Glynn	15,720	14,317	13,420
Gordon	15,861	14,119	12,758
Grady	18,457	.....	.....
Greene	18,512	16,542	17,051
Gwinnett	28,824	25,585	19,899
Habersham	10,134	13,604	11,573
Hall	25,730	20,752	18,047
Hancock	19,189	18,277	17,149
Haralson	13,514	11,922	11,316
Harris	17,886	18,009	16,797
Hart	16,216	14,492	10,887
Heard	11,189	11,177	9,557
Henry	19,927	18,602	16,220
Houston	23,609	22,641	21,613
Irwin	10,461	13,645	6,316
Jackson	30,169	24,039	19,176
Jasper	16,552	15,033	13,879
Jeff Davis	6,050	.....	.....
Jefferson	21,379	18,212	17,213
Jenkins	11,520	.....	.....

GEORGIA Cont'd.

COUNTY	1910	1900	1890
Johnson	12,897	11,409	6,129
Jones	13,103	13,358	12,709
Laurens	35,501	25,908	13,747
Lee	11,679	10,344	9,074
Liberty	12,924	13,093	12,887
Lincoln	8,714	7,156	6,146
Lowndes	24,436	20,036	15,102
Lumpkin	5,444	7,433	6,867
McDuffie	10,325	9,804	8,789
McIntosh	6,442	6,537	6,470
Macon	15,016	14,093	13,183
Madison	16,851	13,224	11,024
Marion	9,147	10,080	7,728
Meriwether	25,180	23,339	20,740
Miller	7,986	6,319	4,275
Milton	7,239	6,763	6,208
Mitchell	22,114	14,767	10,906
Monroe	20,450	20,682	19,137
Montgomery	19,638	16,359	9,248
Morgan	19,717	15,813	16,041
Murray	9,763	8,623	8,461
Muscogee	36,227	29,836	27,761
Newton	18,449	16,734	14,310
Oconee	11,104	8,602	7,713
Oglethorpe	18,680	17,881	16,951
Paulding	14,124	12,969	11,948
Pickens	9,041	8,641	8,182
Pierce	10,749	8,100	6,379
Pike	19,495	18,761	16,300
Polk	20,203	17,856	14,945
Pulaski	22,835	18,489	16,559
Putnam	13,876	13,436	14,842
Quitman	4,594	4,701	4,471
Rabun	5,562	6,285	5,606
Randolph	18,841	16,847	15,267
Richmond	58,886	53,735	45,194
Rockdale	8,916	7,515	6,813
Schley	5,213	5,499	5,443
Screven	20,202	19,252	14,424
Spalding	19,741	17,619	13,117
Stephens	9,728	.....	.....
Stewart	13,437	15,856	15,682
Sumter	29,092	26,212	22,107
Talbot	11,696	12,197	13,258
Taliaferro	8,766	7,912	7,291
Tattnall	18,569	20,419	10,253
Taylor	10,839	9,846	8,666
Telfair	13,288	10,083	5,477
Terrell	22,003	19,023	14,503
Thomas	29,071	31,076	26,154
Tift	11,487	.....	.....
Toombs	11,206	.....	.....
Towns	3,932	4,748	4,064
Troup	26,228	24,002	20,723
Turner	10,075	.....	.....
Twiggs	10,736	8,716	8,195
Union	6,918	8,481	7,749
Upson	12,757	13,670	12,188
Walker	18,692	15,661	13,282
Walton	25,393	20,942	17,467
Ware	22,957	13,761	8,811
Warren	11,860	11,463	10,957
Washington	28,174	28,227	25,237
Wayne	13,069	9,449	7,485
Webster	6,151	6,618	5,695
White	5,110	5,912	6,151
Whitfield	15,934	14,509	12,916
Wilcox	13,486	11,097	7,980

GEORGIA Cont'd.

COUNTY	1910	1900	1890
Wilkes	23,441	20,866	18,081
Wilkinson	10,078	11,440	10,781
Worth	19,147	18,664	10,048
The State	2,609,121	2,216,331	1,837,353

IDAHO

COUNTY	1910	1900	1890
Ada	29,088	11,559	8,368
Bannock	19,242	11,702	.....
Bear Lake	7,729	7,051	6,057
Bingham (a)	23,306	10,447	13,575
Blaine	8,387	4,900	.....
Boise	5,250	4,174	3,342
Bonner	13,588	.....	.....
Canyon	25,323	7,497	.....
Cassia	7,197	3,951	3,143
Custer	3,001	2,049	2,176
Elmore	4,785	2,286	1,870
Fremont	24,606	12,821	.....
Idaho	12,384	9,121	2,955
Kootenai	22,747	10,216	4,108
Latah	18,818	13,451	9,173
Lemhi	4,786	3,446	1,915
Lincoln	12,676	1,784	.....
Nez Perce (a)	24,860	13,748	2,847
Oneida	15,170	8,933	6,819
Owyhee	4,044	3,804	2,021
Shoshone	13,963	11,950	5,382
Twin Falls	13,543	.....	.....
Washington (a)	11,101	6,882	3,836
The State	325,594	161,772	b84,385

(a) In 1911 Bonneville County was organized from part of Bingham County. Clearwater and Lewis Counties from part of Nez Perce County. Adams County from part of Washington County.

(b) Includes population of Alturas and Logan counties (population 2,629 and 4,169 respectively, in 1890) absorbed by other counties since 1890.

ILLINOIS

COUNTY	1910	1900	1890
Adams	64,588	67,058	61,888
Alexander	22,741	19,384	16,563
Bond	17,075	16,078	14,550
Boone	15,481	15,791	12,203
Brown	10,397	11,557	11,951
Bureau	43,975	41,112	35,014
Calhoun	8,610	8,917	7,652
Carroll	18,035	18,963	18,320
Cass	17,372	17,222	15,963
Champaign	51,829	47,622	42,159
Christian	34,594	32,790	30,531
Clark	23,517	24,033	21,899
Clay	18,661	19,553	16,772
Clinton	22,832	19,824	17,411
Coles	34,517	34,146	30,093
Cook	2,405,233	1,838,735	1,191,922
Crawford	26,281	19,240	17,283
Cumberland	14,281	16,124	15,443

ILLINOIS Cont'd.

COUNTY	1910	1900	1890
Dekalb	33,457	31,756	27,066
Dewitt	18,906	18,972	17,011
Douglas	19,591	19,097	17,669
Dupage	33,432	28,196	22,551
Edgar	27,336	28,273	26,787
Edwards	10,049	10,345	9,444
Effingham	20,055	20,465	19,358
Fayette	28,075	28,065	23,367
Ford	17,096	18,359	17,035
Franklin	25,943	19,675	17,138
Fulton	49,549	46,201	43,110
Gallatin	14,628	15,836	14,935
Greene	22,363	23,402	23,791
Grundy	24,162	24,136	21,024
Hamilton	18,227	20,197	17,800
Hancock	30,638	32,215	31,907
Hardin	7,015	7,448	7,234
Henderson	9,724	10,836	9,876
Henry	41,736	40,049	33,338
Iroquois	35,543	38,014	35,167
Jackson	35,143	33,871	27,809
Jasper	18,157	20,160	18,188
Jefferson	29,111	28,133	22,590
Jersey	13,954	14,612	14,810
Jo Daviess	22,657	24,533	25,101
Johnson	14,331	15,667	15,013
Kane	91,862	78,792	65,061
Kankakee	40,752	37,154	28,732
Kendall	10,777	11,467	12,106
Knox	46,159	43,612	38,752
Lake	55,058	34,504	24,235
Lasalle	90,132	87,776	80,798
Lawrence	22,661	16,523	14,693
Lee	27,750	29,894	26,187
Livingston	40,465	42,035	38,455
Logan	30,216	28,680	25,489
McDonough	26,887	28,412	27,467
McHenry	32,509	29,759	26,114
McLean	68,008	67,843	63,036
Macon	54,186	44,003	38,083
Macoupin	50,685	42,256	40,380
Madison	89,847	64,694	51,535
Marion	35,094	30,446	24,341
Marshall	15,679	16,370	13,653
Mason	17,377	17,491	16,067
Massac	14,200	13,110	11,313
Menard	12,796	14,336	13,120
Mercer	19,723	20,945	18,545
Monroe	13,508	13,847	12,948
Montgomery	35,311	30,836	30,003
Morgan	34,420	35,006	32,636
Moultrie	14,630	15,224	14,481
Ogle	27,864	29,129	28,710
Peoria	100,255	88,608	70,378
Perry	22,088	19,830	17,529
Piatt	16,376	17,706	17,062
Pike	28,622	31,595	31,000
Pope	11,215	13,585	14,016
Pulaski	15,650	14,554	11,355
Putnam	7,561	4,746	4,730
Randolph	29,120	28,001	25,049
Richland	15,970	16,391	15,019
Rock Island	70,404	55,249	41,917
St. Clair	119,870	86,685	66,571
Saline	30,204	21,685	19,342
Sangamon	91,024	71,593	61,195
Schuyler	14,852	16,129	16,013

ILLINOIS Cont'd.

COUNTY	1910	1900	1890
Scott	10,067	10,455	10,304
Shelby	31,693	32,126	31,191
Stark	10,098	10,186	9,982
Stephenson	36,821	34,933	31,338
Tazewell	34,027	33,221	29,556
Union	21,856	22,610	21,549
Vermilion	77,996	65,635	49,905
Wabash	14,913	12,583	11,866
Warren	23,313	23,163	21,281
Washington	18,759	19,526	19,262
Wayne	25,697	27,626	23,806
White	23,052	25,386	25,005
Whiteside	34,507	34,710	30,854
Will	84,371	74,764	62,007
Williamson	45,098	27,796	22,226
Winnebago	63,153	47,845	39,938
Woodford	20,506	21,822	21,429
The State	5,638,591	4,821,550	3,826,352

INDIANA

COUNTY	1910	1900	1890
Adams	21,840	22,232	20,181
Allen	93,386	77,270	66,689
Bartholomew	24,813	24,594	23,867
Benton	12,688	13,123	11,903
Blackford	15,820	17,213	10,461
Boone	24,673	26,321	26,572
Brown	7,975	9,727	10,308
Carroll	17,970	19,953	20,021
Cass	36,368	34,545	31,152
Clark	30,260	31,835	30,259
Clay	32,535	34,285	30,536
Clinton	26,674	28,202	27,370
Crawford	12,057	13,476	13,941
Daviess	27,747	29,914	26,227
Dearborn	21,396	22,194	23,364
Decatur	18,793	19,518	19,277
Dekalb	25,054	25,711	24,307
Delaware	51,414	49,624	30,131
Dubois	19,843	20,357	20,253
Elkhart	49,008	45,052	39,201
Fayette	14,415	13,495	12,630
Floyd	30,293	30,118	29,458
Fountain	20,439	21,446	19,558
Franklin	15,335	16,388	18,366
Fulton	16,879	17,453	16,746
Gibson	30,137	30,099	24,920
Grant	51,426	54,693	31,493
Greene	36,873	28,530	24,379
Hamilton	27,026	29,914	26,123
Hancock	19,030	19,189	17,829
Harrison	20,232	21,702	20,786
Hendricks	20,840	21,292	21,498
Henry	29,758	25,088	23,879
Howard	33,177	28,575	26,186
Huntington	28,982	28,901	27,644
Jackson	24,727	26,633	24,139
Jasper	13,044	14,292	11,185
Jay	24,961	26,818	23,478
Jefferson	20,483	22,913	24,507
Jennings	14,203	15,757	14,608
Johnson	20,394	20,223	19,561
Knox	39,183	32,746	28,044
Kosciusko	27,936	29,109	28,645
Lagrange	15,148	15,284	15,615

INDIANA Cont'd.

COUNTY	1910	1900	1890
Lake	82,864	37,892	23,886
Laporte	45,797	38,386	34,445
Lawrence	30,625	25,729	19,792
Madison	65,224	70,470	36,487
Marion	263,661	197,227	141,156
Marshall	24,175	25,119	23,818
Martin	12,950	14,711	13,973
Miami	29,350	28,344	25,823
Monroe	23,426	20,873	17,673
Montgomery	29,296	29,388	28,025
Morgan	21,182	20,457	18,643
Newton	10,504	10,448	8,803
Noble	24,009	23,533	23,359
Ohio	4,329	4,724	4,955
Orange	17,192	16,854	14,678
Owen	14,053	15,149	15,040
Parke	22,214	23,000	20,296
Perry	18,078	18,778	18,240
Pike	19,684	20,486	18,544
Porter	20,540	19,175	18,052
Posey	21,670	22,333	21,529
Pulaski	13,312	14,033	11,233
Putnam	20,520	21,478	22,335
Randolph	29,013	28,653	28,085
Ripley	19,452	19,881	19,350
Rush	19,349	20,148	19,034
St. Joseph	84,312	58,881	42,457
Scott	8,323	8,307	7,833
Shelby	26,802	26,491	25,454
Spencer	20,676	22,407	22,060
Starke	10,567	10,431	7,339
Steuben	14,274	15,219	14,478
Sullivan	32,439	26,005	21,877
Switzerland	9,914	11,840	12,514
Tippecanoe	40,063	38,659	35,078
Tipton	17,459	19,116	18,157
Union	6,260	6,748	7,006
Vanderburg	77,438	71,769	59,809
Vermilion	18,865	15,252	13,154
Vigo	87,930	62,035	50,195
Wabash	26,926	28,235	27,126
Warren	10,899	11,371	10,955
Warrick	21,911	22,329	21,161
Washington	17,445	19,409	18,619
Wayne	43,757	38,970	37,628
Wells	22,418	23,449	21,514
White	17,602	19,138	15,671
Whitley	16,892	17,328	17,768
The State	2,700,876	2,516,462	2,192,404

IOWA

COUNTY	1910	1900	1890
Adair	14,420	16,192	14,534
Adams	10,998	13,601	12,292
Allamakee	17,328	18,711	17,907
Appanoose	28,701	25,927	18,961
Audubon	12,671	13,626	12,412
Benton	23,156	25,177	24,178
Blackhawk	44,865	32,399	24,219
Boone	27,626	28,200	23,772
Bremer	15,843	16,305	14,630
Buchanan	19,748	21,427	18,997
Buena Vista	15,981	16,975	13,548
Butler	17,119	17,955	15,463

STATES BY COUNTIES

IOWA Cont'd.

COUNTY	1910	1900	1890
Calhoun	17,090	18,569	13,107
Carroll	20,117	20,319	18,828
Cass	19,047	21,274	19,645
Cedar	17,765	19,371	18,253
Cerro Gordo	25,011	20,672	14,864
Cherokee	16,741	16,570	15,659
Chickasaw	15,375	17,037	15,019
Clarke	10,736	12,440	11,332
Clay	12,766	13,401	9,309
Clayton	25,576	27,750	26,733
Clinton	45,394	43,832	41,199
Crawford	20,041	21,685	18,894
Dallas	23,628	23,058	20,479
Davis	13,315	15,620	15,258
Decatur	16,347	18,115	15,643
Delaware	17,888	19,185	17,349
Des Moines	36,145	35,989	35,324
Dickinson	8,137	7,995	4,328
Dubuque	57,450	56,403	49,848
Emmet	9,816	9,936	4,274
Fayette	27,919	29,845	23,141
Floyd	17,119	17,754	15,424
Franklin	14,780	14,996	12,871
Fremont	15,623	18,546	16,842
Greene	16,023	17,820	15,797
Grundy	13,574	13,757	13,215
Guthrie	17,374	18,729	17,380
Hamilton	19,242	19,514	15,319
Hancock	12,731	13,752	7,621
Hardin	20,921	22,794	19,003
Harrison	23,162	25,597	21,356
Henry	18,640	20,022	18,895
Howard	12,920	14,512	11,182
Humboldt	12,182	12,667	9,836
Ida	11,296	12,327	10,705
Iowa	18,409	19,544	18,270
Jackson	21,258	23,615	22,771
Jasper	27,034	26,976	24,943
Jefferson	15,951	17,437	15,184
Johnson	25,914	24,817	23,082
Jones	19,050	21,954	20,233
Keokuk	21,160	24,979	23,862
Kossuth	21,971	22,720	13,120
Lee	36,702	39,719	37,715
Linn	60,720	55,392	45,303
Louisa	12,855	13,516	11,873
Lucas	13,462	16,126	14,563
Lyon	14,624	13,165	8,680
Madison	15,621	17,710	15,977
Mahaska	29,860	34,273	28,805
Marion	22,995	24,159	23,058
Marshall	30,279	29,991	25,842
Mills	15,811	16,764	14,548
Mitchell	13,435	14,916	13,299
Monona	16,633	17,980	14,515
Monroe	25,429	17,985	13,666
Montgomery	16,604	17,803	15,848
Muscatine	29,505	28,242	24,504
O'Brien	17,262	16,985	13,060
Osceola	8,956	8,725	5,574
Page	24,002	24,187	21,341
Palo Alto	13,845	14,354	9,318
Plymouth	23,129	22,209	19,568
Pocahontas	14,808	15,339	9,553
Polk	110,438	82,624	65,410
Pottawattamie	55 832	54,336	47,430
Poweshiek	19,589	19,414	18,394
Ringgold	12,904	15,325	13,556

IOWA Cont'd.

COUNTY	1910	1900	1890
Sac	16,555	17,639	14,522
Scott	60,000	51,558	43,164
Shelby	16,552	17,932	17,611
Sioux	25,248	23,337	18,370
Story	24,083	23,159	18,127
Tama	22,156	24,585	21,651
Taylor	16,312	18,784	16,384
Union	16,616	19,928	16,900
Van Buren	15,020	17,354	16,253
Wapello	37,743	35,426	30,426
Warren	18,194	20,376	18,269
Washington	19,925	20,718	18,468
Wayne	16,184	17,491	15,670
Webster	34,629	31,757	21,582
Winnebago	11,914	12,725	7,325
Winneshiek	21,729	23,731	22,528
Woodbury	67,616	54,610	55,632
Worth	9,950	10,887	9,247
Wright	17,951	18,227	12,057
The State	2,224,771	2,231,853	1,911,896

KANSAS

COUNTY	1910	1900	1890
Allen	27,640	19,507	13,509
Anderson	13,829	13,938	14,203
Atchison	28,107	28,606	26,758
Barber	9,916	6,594	7,973
Barton	17,876	13,784	13,172
Bourbon	24,007	24,712	28,575
Brown	21,314	22,369	20,319
Butler	23,059	23,363	24,055
Chase	7,527	8,246	8,233
Chautauqua	11,429	11,804	12,297
Cherokee	38,162	42,694	27,770
Cheyenne	4,248	2,640	4,401
Clark	4,093	1,701	2,357
Clay	15,251	15,833	16,146
Cloud	18,388	18,071	19,295
Coffey	15,205	16,643	15,856
Comanche	3,281	1,619	2,549
Cowley	31,790	30,156	34,478
Crawford	51,178	38,809	30,286
Decatur	8,976	9,234	8,414
Dickinson	24,361	21,816	22,273
Doniphan	14,422	15,079	13,535
Douglas	24,724	25,096	23,961
Edwards	7,033	3,682	3,600
Elk	10,128	11,443	12,216
Ellis	12,170	8,626	7,942
Ellsworth	10,444	9,626	9,272
Finney (a)	6,908	3,469	3,350
Ford	11,393	5,497	5,308
Franklin	20,884	21,354	20,279
Geary	12,681	10,744	10,423
Gove	6,044	2,441	2,994
Graham	8,700	5,173	5,029
Grant	1,087	422	1,308
Gray	3,121	1,264	2,415
Greeley	1,335	493	1,264
Greenwood	16,060	16,196	16,309
Hamilton	3,360	1,426	2,027
Harper	14,748	10,310	13,266
Harvey	19,200	17,591	17,601
Haskell	993	457	1,077
Hodgeman	2,930	2,032	2,395

KANSAS Cont'd.

COUNTY	1910	1900	1890
Jackson	16,861	17,117	14,626
Jefferson	15,826	17,533	16,620
Jewell	18,148	19,420	19,349
Johnson	18,288	18,104	17,385
Kearny	3,206	1,107	1,571
Kingman	13,386	10,663	11,823
Kiowa	6,174	2,365	2,873
Labette	31,423	27,387	27,586
Lane	2,603	1,563	2,060
Leavenworth	41,207	40,940	38,485
Lincoln	10,142	9,886	9,709
Linn	14,735	16,689	17,215
Logan	4,240	1,962	3,384
Lyon	24,927	25,074	23,196
McPherson	21,521	21,421	21,614
Marion	22,415	20,676	20,539
Marshall	23,880	24,355	23,912
Meade	5,055	1,581	2,544
Miami	20,030	21,641	19,614
Mitchell	14,089	14,647	15,037
Montgomery	49,474	29,039	23,104
Morris	12,397	11,967	11,381
Morton	1,333	304	724
Nemaha	19,072	20,316	19,249
Neosho	23,754	19,254	18,561
Ness	5,883	4,535	4,944
Norton	11,614	11,325	10,617
Osage	19,905	23,659	25,062
Osborne	12,827	11,844	12,083
Ottawa	11,811	11,182	12,581
Pawnee	8,859	5,084	5,204
Phillips	14,150	14,442	13,661
Pottawatomie	17,522	18,470	17,722
Pratt	11,156	7,085	8,118
Rawlins	6,380	5,241	6,756
Reno	37,853	29,027	27,079
Republic	17,447	18,248	19,002
Rice	15,106	14,745	14,451
Riley	15,783	13,828	13,183
Rooks	11,282	7,960	8,018
Rush	7,826	6,134	5,204
Russell	10,800	8,489	7,333
Saline	20,338	17,076	17,442
Scott	3,047	1,098	1,262
Sedgwick	73,095	44,037	43,626
Seward	4,091	822	1,503
Shawnee	61,874	53,727	49,172
Sheridan	5,651	3,819	3,733
Sherman	4,549	3,341	5,261
Smith	15,365	16,384	15,613
Stafford	12,510	9,829	8,520
Stanton	1,034	327	1,031
Stevens	2,453	620	1,418
Sumner	30,654	25,631	30,271
Thomas	5,455	4,112	5,538
Trego	5,398	2,722	2,535
Wabaunsee	12,721	12,813	11,720
Wallace	2,759	1,178	2,468
Washington	20,229	21,963	22,894
Wichita	2,006	1,197	1,827
Wilson	19,810	15,621	15,286
Woodson	9,450	10,022	9,021
Wyandotte	100,068	73,227	54,407
The State	1,690,949	1,470,495	1,427,096

(a) Garfield county (population 881 in 1890) annexed to Finney county in 1893.

KENTUCKY

COUNTY	1910	1900	1890
Adair	16,503	14,888	13,721
Allen	14,882	14,657	13,692
Anderson	10,146	10,051	10,610
Ballard	12,690	10,761	8,390
Barren	25,293	23,197	21,490
Bath	13,988	14,734	12,813
Bell	28,447	15,701	10,312
Boone	9,420	11,170	12,246
Bourbon	17,462	18,069	16,976
Boyd	23,444	18,834	14,033
Boyle	14,668	13,817	12,948
Bracken	10,308	12,137	12,369
Breathitt	17,540	14,322	8,705
Breckinridge	21,034	20,534	18,976
Bullitt	9,487	9,602	8,291
Butler	15,805	15,896	13,956
Caldwell	14,063	14,510	13,186
Calloway	19,867	17,633	14,675
Campbell	59,369	54,223	44,208
Carlisle	9,048	10,195	7,612
Carroll	8,110	9,825	9,266
Carter	21,966	20,228	17,204
Casey	15,479	15,144	11,848
Christian	38,845	37,962	34,118
Clark	17,987	16,694	15,434
Clay	17,789	15,364	12,447
Clinton	8,153	7,871	7,047
Crittenden	13,296	15,191	13,119
Cumberland	9,846	8,962	8,452
Daviess	41,020	38,667	33,120
Edmonson	10,469	10,080	8,005
Elliott	9,814	10,387	9,214
Estill	12,273	11,669	10,836
Fayette	47,715	42,071	35,698
Fleming	16,066	17,074	16,078
Floyd	18,623	15,552	11,256
Franklin	21,135	20,852	21,267
Fulton	14,114	11,546	10,005
Gallatin	4,697	5,163	4,611
Garrard	11,894	12,042	11,138
Grant	10,581	13,239	12,671
Graves	33,539	33,204	28,534
Grayson	19,958	19,878	18,688
Green	11,871	12,255	11,463
Greenup	18,475	15,432	11,911
Hancock	8,512	8,914	9,214
Hardin	22,696	22,937	21,304
Harlan	10,566	9,838	6,197
Harrison	16,873	18,570	16,914
Hart	18,173	18,390	16,439
Henderson	29,352	32,907	29,536
Henry	13,716	14,620	14,164
Hickman	11,750	11,745	11,637
Hopkins	34,291	30,995	23,505
Jackson	10,734	10,561	8,261
Jefferson	262,920	232,549	188,598
Jessamine	12,613	11,925	11,248
Johnson	17,482	13,730	11,027
Kenton	70,355	63,591	54,161
Knott	10,791	8,704	5,438
Knox	22,116	17,372	13,762
Larue	10,701	10,764	9,433
Laurel	19,872	17,592	13,747
Lawrence	20,067	19,613	17,702
Lee	9,531	7,988	6,205
Leslie	8,976	6,753	3,964
Letcher	10,623	9,172	6,920
Lewis	16,887	17,868	14,803

STATES BY COUNTIES

KENTUCKY Cont'd.

COUNTY	1910	1900	1890
Lincoln	17,897	17,059	15,962
Livingston	10,627	11,354	9,474
Logan	24,977	25,994	23,812
Lyon	9,423	9,319	7,628
McCracken	35,064	28,733	21,051
McLean	13,241	12,448	9,887
Madison	26,951	25,607	24,348
Magoffin	13,654	12,006	9,196
Marion	16,330	16,290	15,648
Marshall	15,771	13,692	11,287
Martin	7,291	5,780	4,209
Mason	18,611	20,446	20,773
Meade	9,783	10,533	9,484
Menifee	6,153	6,818	4,666
Mercer	14,063	14,426	15,034
Metcalfe	10,453	9,988	9,871
Monroe	13,663	13,053	10,989
Montgomery	12,868	12,834	12,367
Morgan	16,259	12,792	11,249
Muhlenberg	28,598	20,741	17,955
Nelson	16,830	16,587	16,417
Nicholas	10,601	11,952	10,764
Ohio	27,642	27,287	22,946
Oldham	7,248	7,078	6,754
Owen	14,248	17,553	17,676
Owsley	7,979	6,874	5,975
Pendleton	11,985	14,947	16,346
Perry	11,255	8,276	6,331
Pike	31,679	22,686	17,378
Powell	6,268	6,443	4,698
Pulaski	35,986	31,293	25,731
Robertson	4,121	4,900	4,684
Rockcastle	14,473	12,416	9,841
Rowan	9,438	8,277	6,129
Russell	10,861	9,695	8,136
Scott	16,956	18,076	16,546
Shelby	18,041	18,340	16,521
Simpson	11,460	11,624	10,878
Spencer	7,567	7,406	6,760
Taylor	11,961	11,075	9,353
Todd	16,488	17,371	16,814
Trigg	14,539	14,073	13,902
Trimble	6,512	7,272	7,140
Union	19,886	21,326	18,229
Warren	30,579	29,970	30,158
Washington	13,940	14,182	13,622
Wayne	17,518	14,892	12,852
Webster	20,974	20,097	17,196
Whitley	31,982	25,015	17,590
Wolfe	9,864	8,764	7,180
Woodford	12,571	13,134	12,380
The State	2,289,905	2,147,174	1,858,635

LOUISIANA Cont'd.

PARISH	1910	1900	1890
Catahoula	10,415	16,351	12,002
Claiborne	25,050	23,029	23,312
Concordia	14,278	13,559	14,871
De Soto	27,689	25,063	19,860
East Baton Rouge	34,580	31,153	25,922
East Carroll	11,637	11,373	12,362
East Feliciana	20,055	20,443	17,903
Franklin	11,989	8,890	6,900
Grant	15,958	12,902	8,270
Iberia	31,262	29,015	20,997
Iberville	30,954	27,006	21,848
Jackson	13,818	9,119	7,453
Jefferson	18,247	15,321	13,221
La Salle	9,402	.....	.....
Lafayette	28,733	22,825	15,966
Lafourche	33,111	28,882	22,095
Lincoln	18,485	15,898	14,753
Livingston	10,627	8,100	5,769
Madison	10,676	12,322	14,135
Morehouse	18,786	16,634	16,786
Natchitoches	36,455	33,216	25,836
Orleans	339,075	287,104	242,039
Ouachita	25,830	20,947	17,985
Plaquemines	12,524	13,039	12,541
Pointe Coupee	25,289	25,777	19,613
Rapides	44,545	39,578	27,642
Red River	11,402	11,548	11,318
Richland	15,769	11,116	10,230
Sabine	19,874	15,421	9,390
St. Bernard	5,277	5,031	4,326
St. Charles	11,207	9,072	7,737
St. Helena	9,172	8,479	8,062
St. James	23,009	20,197	15,715
St. John the Baptist	14,338	12,330	11,359
St. Landry	66,661	52,906	40,250
St. Martin	23,070	18,940	14,884
St. Mary	39,368	34,145	22,416
St. Tammany	18,917	13,335	10,160
Tangipahoa	29,160	17,625	12,655
Tensas	17,060	19,070	16,647
Terrebonne	28,320	24,464	20,167
Union	20,451	18,520	17,304
Vermilion	26,390	20,705	14,234
Vernon	17,384	10,327	5,903
Washington	18,886	9,628	6,700
Webster	19,186	15,125	12,466
W. Baton Rouge	12,636	10,285	8,363
West Carroll	6,249	3,685	3,748
West Feliciana	13,449	15,994	15,062
Winn	18,357	9,648	7,082
The State	1,656,388	1,381,625	1,118,587

LOUISIANA

PARISH	1910	1900	1890
Acadia	31,847	23,483	13,231
Ascension	23,887	24,142	19,545
Assumption	24,128	21,620	19,629
Avoyelles	34,102	29,701	25,112
Bienville	21,776	17,588	14,108
Bossier	21,738	24,153	20,330
Caddo	58,200	44,499	31,555
Calcasieu	62,767	30,428	20,176
Caldwell	8,593	6,917	5,814
Cameron	4,288	3,952	2,828

MAINE

COUNTY	1910	1900	1890
Androscoggin	59,822	54,242	48,968
Aroostook	74,664	60,744	49,589
Cumberland	112,014	100,689	90,949
Franklin	19,119	18,444	17,053
Hancock	35,575	37,241	37,312
Kennebec	62,863	59,117	57,012
Knox	28,981	30,406	31,473
Lincoln	18,216	19,669	21,996
Oxford	36,256	32,238	30,586
Penobscot	85,285	76,246	72,865

MAINE Cont'd.

COUNTY	1910	1900	1890
Piscataquis	19,887	16,949	16,134
Sagadahoc	18,574	20,330	19,452
Somerset	36,301	33,849	32,627
Waldo	23,383	24,185	27,759
Washington	42,905	45,232	44,482
York	68,526	64,885	62,829
The State	742,371	694,466	661,086

MARYLAND

COUNTY	1910	1900	1890
Allegany	62,411	53,694	41,571
Anne Arundel	39,553	39,620	34,094
Baltimore	122,349	90,755	72,909
Baltimore city	558,485	508,957	434,439
Calvert	10,325	10,223	9,860
Caroline	19,216	16,248	13,903
Carroll	33,934	33,860	32,376
Cecil	23,759	24,662	25,851
Charles	16,386	17,662	15,191
Dorchester	28,669	27,962	24,843
Frederick	52,673	51,920	49,512
Garrett	20,105	17,701	14,213
Harford	27,965	28,269	28,993
Howard	16,106	16,715	16,269
Kent	16,957	18,786	17,471
Montgomery	32,089	30,451	27,185
Prince Georges	36,147	29,898	26,080
Queen Annes	16,839	18,364	18,461
St. Marys	17,030	17,182	15,819
Somerset	26,455	25,923	24,155
Talbot	19,620	20,342	19,736
Washington	49,671	45,133	39,782
Wicomico	26,815	22,852	19,930
Worcester	21,841	20,865	19,747
The State	1,295,346	1,188,044	1,042,390

MASSACHUSETTS

COUNTY	1910	1900	1890
Barnstable	27,542	27,826	29,172
Berkshire	105,259	95,667	81,108
Bristol	318,573	252,029	186,465
Dukes	4,504	4,561	4,369
Essex	436,477	357,030	299,995
Franklin	43,600	41,209	38,610
Hampden	231,369	175,603	135,713
Hampshire	63,327	58,820	51,859
Middlesex	669,915	565,696	431,167
Nantucket	2,962	3,006	3,268
Norfolk	187,506	151,539	118,950
Plymouth	144,337	113,985	92,700
Suffolk	731,388	611,417	484,780
Worcester	399,657	346,958	280,787
The State	3,366,416	2,805,346	2,238,947

MICHIGAN

COUNTY	1910	1900	1890
Alcona	5,703	5,691	5,409
Alger	7,675	5,868	1,238
Allegan	39,819	38,812	38,961
Alpena	19,965	18,254	15,581

MICHIGAN Cont'd.

COUNTY	1910	1900	1890
Antrim	15,692	16,568	10,413
Arenac	9,640	9,821	5,683
Baraga	6,127	4,320	3,036
Barry	22,633	22,514	23,783
Bay	68,238	62,373	56,412
Benzie	10,638	9,685	5,237
Berrien	53,622	49,165	41,285
Branch	25,605	27,811	26,791
Calhoun	56,638	49,315	43,501
Cass	20,624	20,876	20,953
Charlevoix	19,157	13,956	9,686
Cheboygan	17,872	15,516	11,986
Chippewa	24,472	21,338	12,019
Clare	9,240	8,360	7,568
Clinton	23,129	25,136	26,509
Crawford	3,934	2,943	2,962
Delta	30,108	23,881	15,330
Dickinson	20,524	17,890	(b)
Eaton	30,499	31,668	32,094
Emmet	18,561	15,934	8,756
Genesee	64,555	41,804	39,430
Gladwin	8,413	6,564	4,208
Gogebic	23,333	16,738	13,166
Grand Traverse	23,784	20,479	13,355
Gratiot	28,820	29,889	28,668
Hillsdale	29,673	29,865	30,660
Houghton	88,098	66,063	35,389
Huron	34,758	34,162	28,545
Ingham	53,310	39,818	37,666
Ionia	33,550	34,329	32,801
Iosco	9,753	10,246	15,224
Iron	15,164	8,990	4,432
Isabella	23,029	22,784	18,784
Jackson	53,426	48,222	45,031
Kalamazoo	60,427	44,310	39,273
Kalkaska	8,097	7,133	5,160
Kent	159,145	129,714	109,922
Keweenaw	7,156	3,217	2,894
Lake	4,939	4,957	6,505
Lapeer	26,033	27,641	29,213
Leelanau	10,608	10,556	7,944
Lenawee	47,907	48,406	48,448
Livingston	17,736	19,664	20,858
Luce	4,004	2,983	2,455
Mackinac	9,249	7,703	7,830
Macomb	32,606	33,244	31,813
Manistee	26,688	27,856	24,230
Marquette	46,739	41,239	39,521
Mason	21,832	18,885	16,385
Mecosta	19,466	20,693	16,697
Menominee	25,648	27,046	33,639
Midland	14,005	14,439	10,657
Missaukee	10,606	9,308	5,048
Monroe	32,917	32,754	32,337
Montcalm	32,069	32,754	32,637
Montmorency	3,755	3,234	1,487
Muskegon	40,577	37,036	40,013
Newaygo	19,220	17,673	20,476
Oakland	49,576	44,792	41,245
Oceana	18,379	16,644	15,698
Ogemaw	8,907	7,765	5,583
Ontonagon	8,650	6,197	3,756
Osceola	17,889	17,859	14,630
Oscoda	2,027	1,468	1,904
Otsego	6,552	6,175	4,272
Ottawa	45,301	39,667	35,358
Presque Isle	11,249	8,821	4,687

MICHIGAN Cont'd.

COUNTY	1910	1900	1890
Roscommon	2,274	1,787	2,033
Saginaw	89,290	81,222	82,273
St. Clair	52,341	55,228	52,105
St. Joseph	25,499	23,889	25,356
Sanilac	33,930	35,055	32,589
Schoolcraft	8,681	7,889	5,818
Shiawassee	33,246	33,866	30,952
Tuscola	34,913	35,890	32,508
Van Buren	33,185	33,274	30,541
Washtenaw	44,714	47,761	42,210
Wayne	531,591	348,793	257,114
Wexford	20,769	16,845	11,278
The State	2,810,173	2,420,982	2,093,889

(a) Includes population (860) of Manitou annexed to Charlevoix and Leelanau in 1896, and (135) of Isle Royal annexed to Keweenaw in 1897.

(b) Organized from parts of Iron, Marquette and Menominee in 1891.

MINNESOTA

COUNTY	1910	1900	1890
Aitkin	10,371	6,743	2,462
Anoka	12,493	11,313	9,884
Becker (a)	18,840	14,375	9,401
Beltrami	19,337	11,030	312
Benton	11,615	9,912	6,284
Bigstone	9,367	8,731	5,722
Blue Earth	29,337	32,263	29,210
Brown	20,134	19,787	15,817
Carlton	17,559	10,017	5,272
Carver	17,455	17,544	16,532
Cass	11,620	7,777	1,247
Chippewa	13,458	12,499	8,555
Chisago	13,537	13,248	10,359
Clay	19,640	17,942	11,517
Clearwater (a)	6,870	.....	.....
Cook	1,336	810	98
Cottonwood	12,651	12,069	7,412
Crow Wing	16,861	14,250	8,852
Dakota	25,171	21,733	20,240
Dodge	12,094	13,340	10,864
Douglas	17,669	17,964	14,606
Faribault	19,949	22,055	16,708
Fillmore	25,680	28,238	25,966
Freeborn	22,282	21,838	17,962
Goodhue	31,637	31,137	28,806
Grant	9,114	8,935	6,875
Hennepin	333,480	228,340	185,294
Houston	14,297	15,400	14,653
Hubbard	9,831	6,578	1,412
Isanti	12,615	11,675	7,607
Itasca	17,208	4,573	743
Jackson	14,491	14,793	8,924
Kanabec	6,461	4,614	1,579
Kandiyohi	18,969	18,416	13,997
Kittson	9,669	7,889	5,387
Koochiching	6,431	.....	.....
Lac qui Parle	15,435	14,289	10,382
Lake	8,011	4,654	1,299
Le Sueur	18,609	20,234	19,057
Lincoln	9,874	8,966	5,691
Lyon	15,722	14,591	9,501
McLeod	18,691	19,595	17,026

MINNESOTA Cont'd.

COUNTY	1910	1900	1890
Mahnomen (a)	3,249	.....	.....
Marshall	16,338	15,698	9,130
Martin	17,518	16,936	9,403
Meeker	17,022	17,753	15,456
Mille Lacs	10,705	8,066	2,845
Morrison	24,053	22,891	13,325
Mower	22,640	22,335	18,019
Murray	11,755	11,911	6,692
Nicollet	14,125	14,774	13,382
Nobles	15,210	14,932	7,958
Norman	13,446	15,045	10,618
Olmsted	22,497	23,119	19,806
Otter Tail	46,036	45,375	34,232
Pine	15,878	11,546	4,052
Pipestone	9,553	9,264	5,132
Polk	36,001	35,429	30,192
Pope	12,746	12,577	10,032
Ramsey	223,675	170,554	139,796
Red Lake	15,940	12,195	.....
Redwood	18,425	17,261	9,386
Renville	23,123	23,693	17,099
Rice	25,911	26,080	23,968
Rock	10,222	9,668	6,817
Roseau	11,338	6,994	.....
St. Louis	163,274	82,932	44,862
Scott	14,888	15,147	13,831
Sheburne	8,136	7,281	5,908
Sibley	15,540	16,862	15,199
Stearns	47,733	44,464	34,844
Steele	16,146	16,524	13,232
Stevens	8,293	8,721	5,251
Swift	12,949	13,503	10,161
Todd	23,407	22,214	12,930
Traverse	8,049	7,573	4,516
Wabasha	18,554	18,924	16,972
Wadena	8,652	7,921	4,053
Waseca	13,466	14,760	13,313
Washington	26,013	27,808	25,992
Watonwan	11,382	11,496	7,746
Wilkin	9,063	8,080	4,346
Winona	33,398	35,686	33,797
Wright	28,082	29,157	24,164
Yellow Medicine	15,406	14,602	9,854
The State	2,075,708	1,751,394	1,301,826

(a) Includes population of part of White Earth Indian Reservation (population 3,486 in 1900) in Becker, Clearwater, and Mahnomen counties.

MISSISSIPPI

COUNTY	1910	1900	1890
Adams	25,265	30,111	26,031
Alcorn	18,159	14,987	13,115
Amite	22,954	20,708	18,198
Attala	28,851	26,248	22,213
Benton	10,245	10,510	10,585
Bolivar	48,905	35,427	29,980
Calhoun	17,726	16,512	14,688
Carroll	23,139	22,116	18,773
Chickasaw	22,846	19,892	19,891
Choctaw	14,357	13,036	10,847
Claiborne	17,403	20,787	14,516
Clarke	21,630	17,741	15,826
Clay	20,203	19,563	18,607

MISSISSIPPI Cont'd.

COUNTY	1910	1900	1890
Coahoma	34,217	26,293	18,342
Copiah	35,914	34,395	30,233
Covington	16,909	13,076	8,299
De Soto	23,130	24,751	24,183
Forrest	20,722	.....	.....
Franklin	15,193	13,678	10,424
George	6,599	.....	.....
Greene	6,050	6,795	3,906
Grenada	15,727	14,112	14,974
Hancock	11,207	11,886	8,318
Harrison	34,658	21,002	12,481
Hinds	63,726	52,577	39,279
Holmes	39,088	36,828	30,970
Issaquena	10,560	10,400	12,318
Itawamba	14,526	13,544	11,708
Jackson	15,451	16,513	11,251
Jasper	18,498	15,394	14,785
Jefferson	18,221	21,292	18,947
Jefferson Davis	12,860	.....	.....
Jones	29,885	17,846	8,333
Kemper	20,348	20,492	17,961
Lafayette	21,883	22,110	20,553
Lamar	11,741	.....	.....
Lauderdale	46,919	38,150	29,661
Lawrence	13,080	15,103	12,318
Leake	18,298	17,360	14,803
Lee	28,894	21,956	20,040
Leflore	36,290	23,834	16,869
Lincoln	28,597	21,552	17,912
Lowndes	30,703	29,095	27,047
Madison	33,505	32,493	27,321
Marion	15,599	13,501	9,532
Marshall	26,796	27,674	26,043
Monroe	35,178	31,216	30,730
Montgomery	17,706	16,536	14,459
Neshoba	17,980	12,726	11,146
Newton	23,085	19,708	16,625
Noxubee	28,503	30,846	27,338
Oktibbeha	19,676	20,183	17,694
Panola	31,274	29,027	26,977
Pearl River	10,593	6,697	2,957
Perry	7,685	14,682	6,494
Pike	37,272	27,545	21,203
Pontotoc	19,688	18,274	14,940
Prentiss	16,931	15,788	13,679
Quitman	11,593	5,435	3,286
Rankin	23,944	20,955	17,922
Scott	16,723	14,316	11,740
Sharkey	15,694	12,178	8,382
Simpson	17,201	12,800	10,138
Smith	16,603	13,055	10,635
Sunflower	28,787	16,084	9,384
Tallahatchie	29,078	19,600	14,361
Tate	19,714	20,618	19,253
Tippah	14,631	12,983	12,951
Tishomingo	13,067	10,124	9,302
Tunica	18,646	16,479	12,158
Union	18,997	16,522	15,606
Warren	37,488	40,912	33,164
Washington	48,933	49,216	40,414
Wayne	14,709	12,539	9,817
Webster	14,853	13,619	12,060
Wilkinson	18,075	21,453	17,592
Winston	17,139	14,124	12,089
Yalobusha	21,519	19,742	16,629
Yazoo	46,672	43,948	36,394
The State	1,797,114	1,551,270	1,289,600

MISSOURI

COUNTY	1910	1900	1890
Adair	22,700	21,728	17,417
Andrew	15,282	17,332	16,000
Atchison	13,604	16,501	15,533
Audrain	21,687	21,160	22,074
Barry	23,869	25,532	22,943
Barton	16,747	18,253	18,504
Bates	25,869	30,141	32,223
Benton	14,881	16,556	14,973
Bollinger	14,576	14,650	13,121
Boone	30,533	28,642	26,043
Buchanan	93,020	121,838	70,100
Butler	20,624	16,769	10,164
Caldwell	14,605	16,656	15,152
Callaway	24,400	25,984	25,131
Camden	11,582	13,113	10,040
Cape Girardeau	27,621	24,315	22,060
Carroll	23,098	26,455	25,742
Carter	5,504	6,706	4,659
Cass	22,973	23,636	23,301
Cedar	16,080	16,923	15,620
Chariton	23,503	26,826	26,254
Christian	15,832	16,939	14,017
Clark	12,811	15,383	15,126
Clay	20,302	18,903	19,856
Clinton	15,297	17,363	17,138
Cole	21,957	20,578	17,281
Cooper	20,311	22,532	22,707
Crawford	13,576	12,959	11,961
Dade	15,613	18,125	17,526
Dallas	13,181	13,903	12,647
Daviess	17,605	21,325	20,456
Dekalb	12,531	14,418	14,539
Dent	13,245	12,986	12,149
Douglas	16,664	16,802	14,111
Dunklin	30,328	21,706	15,085
Franklin	29,830	30,581	28,056
Gasconade	12,847	12,298	11,706
Gentry	16,820	20,554	19,018
Greene	63,831	52,713	48,616
Grundy	16,744	17,832	17,876
Harrison	20,466	24,398	21,033
Henry	27,242	28,054	28,235
Hickory	8,741	9,985	9,453
Holt	14,539	17,083	15,469
Howard	15,653	18,337	17,371
Howell	21,065	21,834	18,618
Iron	8,563	8,716	9,119
Jackson	283,522	195,193	160,510
Jasper	89,673	84,018	50,500
Jefferson	27,878	25,712	22,484
Johnson	26,297	27,843	28,132
Knox	12,403	13,479	13,501
Laclede	17,363	16,523	14,701
Lafayette	30,154	31,679	30,184
Lawrence	26,583	31,662	26,228
Lewis	15,514	16,724	15,935
Lincoln	17,033	18,352	18,346
Linn	25,253	25,503	24,121
Livingston	19,453	22,302	20,668
McDonald	13,539	13,574	11,283
Macon	30,868	33,018	30,575
Madison	11,273	9,975	9,268
Maries	10,088	9,616	8,600
Marion	30,572	26,331	26,233
Mercer	12,335	14,706	14,581
Miller	16,717	15,187	14,162
Mississippi	14,557	11,837	10,134
Moniteau	14,375	15,931	15,630

MISSOURI Cont'd.

COUNTY	1910	1900	1890
Monroe	18,304	19,716	20,790
Montgomery	15,604	16,571	16,850
Morgan	12,863	12,175	12,311
New Madrid	19,488	11,280	9,317
Newton	27,136	27,001	22,108
Nodaway	28,833	32,938	30,914
Oregon	14,681	13,906	10,467
Osage	14,283	14,096	13,080
Ozark	11,926	12,145	9,795
Pemiscot	19,559	12,115	5,975
Perry	14,898	15,134	13,237
Pettis	33,913	32,438	31,151
Phelps	15,796	14,194	12,636
Pike	22,556	25,744	26,321
Platte	14,429	16,193	16,248
Polk	21,561	23,255	20,339
Pulaski	11,438	10,394	9,387
Putnam	14,308	16,688	15,365
Ralls	12,913	12,287	12,294
Randolph	26,182	24,442	24,893
Ray	21,451	24,805	24,215
Reynolds	9,592	8,161	6,803
Ripley	13,099	13,186	8,512
St. Charles	24,695	24,474	22,977
St. Clair	16,412	17,907	16,747
Ste. Genevieve	10,607	10,359	9,883
St. Francois	35,738	24,051	17,347
St. Louis	82,417	50,040	36,307
St. Louis city	687,029	575,238	451,770
Saline	29,448	33,703	33,762
Schuyler	9,062	10,840	11,249
Scotland	11,869	13,232	12,674
Scott	22,372	13,092	11,228
Shannon	11,443	11,247	8,898
Shelby	14,864	16,167	15,642
Stoddard	27,807	24,669	17,327
Stone	11,559	9,892	7,090
Sullivan	18,598	20,282	19,000
Taney	9,134	10,127	7,973
Texas	21,458	22,192	19,406
Vernon	28,827	31,619	31,505
Warren	9,123	9,919	9,913
Washington	13,378	14,263	13,153
Wayne	15,181	15,309	11,927
Webster	17,377	16,640	15,177
Worth	8,007	9,832	8,738
Wright	18,315	17,519	14,484
The State	3,293,335	3,106,665	2,679,184

MONTANA

COUNTY	1910	1900	1890
Beaverhead	6,446	5,615	4,655
Broadwater	3,491	2,641	.....
Carbon	13,962	7,533	.....
Cascade	28,833	25,777	8,755
Chouteau	17,191	10,966	4,741
Custer	14,123	7,891	5,308
Dawson	12,725	2,443	2,056
Deer Lodge	12,988	17,393	15,155
Fergus (a)	17,385	6,937	3,514
Flathead	18,785	9,375	.....
Gallatin	14,079	9,553	6,246
Granite	2,942	4,328	.....
Jefferson	5,601	5,330	6,026
Lewis and Clark	21,853	19,171	19,145

MONTANA Cont'd.

COUNTY	1910	1900	1890
Lincoln	3,638	.....	.....
Madison	7,229	7,695	4,692
Meagher	4,190	2,526	4,749
Missoula	23,596	13,964	14,427
Musselshell	.....	.....	.....
Park	10,731	7,341	6,881
Powell	5,904	.....	.....
Ravalli	11,666	7,822	.....
Rosebud	7,985	.....	.....
Sanders	3,713	.....	.....
Silverbow	56,848	47,635	23,744
Sweet Grass	4,029	3,086	.....
Teton	9,546	5,080	.....
Valley	13,630	4,355	.....
Yellowstone (a)	22,944	6,212	2,065
The State	376,053	b243,329	132,159

(a) Mussellshell count yorganized from parts of Fergus and Yellowstone counties in 1911.

(b) Includes population of Crow Indian Reservation (2,660) in Rosebud and Yellowstone counties.

NEBRASKA

COUNTY	1910	1900	1890
Adams	20,900	18,840	24,303
Antelope	14,003	11,344	10,399
Banner	1,444	1,114	2,435
Blaine	1,672	603	1,146
Boone	13,145	11,689	8,683
Boxbutte	6,131	5,572	5,494
Boyd	8,826	7,332	695
Brown	6,083	3,470	4,359
Buffalo	21,907	20,254	22,162
Burt	12,726	13,040	11,069
Butler	15,403	15,703	15,454
Cass	19,786	21,330	24,080
Cedar	15,191	12,467	7,028
Chase	3,613	2,559	4,807
Cherry	10,414	6,541	6,428
Cheyenne	4,551	5,570	5,693
Clay	15,729	15,735	16,310
Colfax	11,610	11,211	10,453
Cuming	13,782	14,584	12,265
Custer	25,668	19,758	21,677
Dakota	6,564	6,286	5,386
Dawes	8,254	6,215	9,722
Dawson	15,961	12,214	10,129
Deuel	1,786	2,630	2,893
Dixon	11,477	10,535	8,084
Dodge	22,145	22,298	19,260
Douglas	168,546	140,590	158,008
Dundy	4,098	2,434	4,012
Fillmore	14,674	15,087	16,022
Franklin	10,303	9,455	7,693
Frontier	8,572	8,781	8,497
Furnas	12,083	12,373	9,840
Gage	30,325	30,051	36,344
Garden	3,538	.....	.....
Garfield	3,417	2,127	1,659
Gosper	4,933	5,301	4,816
Grant	1,097	763	458
Greeley	8,047	5,691	4,869
Hall	20,361	17,206	16,513
Hamilton	13,459	13,330	14,096
Harlan	9,578	9,370	8,158

NEBRASKA Cont'd.

COUNTY	1910	1900	1890
Hayes	3,011	2,708	3,953
Hitchcock	5,415	4,409	5,799
Holt	15,545	12,224	13,672
Hooker	981	432	426
Howard	10,783	10,343	9,430
Jefferson	16,852	15,196	14,850
Johnson	10,187	11,197	10,333
Kearney	9,106	9,866	9,061
Keith	3,692	1,951	2,556
Keyapaha	3,452	3,076	3,920
Kimball	1,942	758	959
Knox	18,358	14,343	8,582
Lancaster	73,793	64,835	76,395
Lincoln	15,684	11,416	10,441
Logan	1,521	960	1,378
Loup	2,188	1,305	1,662
McPherson (a)	2,470	517	401
Madison	19,101	16,976	13,669
Merrick	10,379	9,255	8,758
Morrill	4,584	.....	.....
Nance	8,926	8,222	5,773
Nemaha	13,095	14,952	12,930
Nuckolls	13,019	12,414	11,417
Otoe	19,323	22,288	25,403
Pawnee	10,582	11,770	10,340
Perkins	2,570	1,702	4,364
Phelps	10,451	10,772	9,869
Pierce	10,122	8,445	4,864
Platte	19,006	17,747	15,437
Polk	10,521	10,542	10,817
Redwillow	11,056	9,604	8,837
Richardson	17,448	19,614	17,574
Rock	3,627	2,809	3,083
Saline	17,866	18,252	20,097
Sarpy	9,274	9,080	6,875
Saunders	21,179	22,085	21,577
Scotts Bluff	8,355	2,552	1,888
Seward	15,895	15,690	16,140
Sheridan	7,328	6,033	8,687
Sherman	8,278	6,550	6,399
Sioux	5,599	2,055	2,452
Stanton	7,542	6,959	4,619
Thayer	14,775	14,325	12,738
Thomas	1,191	628	517
Thurston	8,704	6,517	3,176
Valley	9,480	7,339	7,092
Washington	12,738	13,086	11,869
Wayne	10,397	9,862	6,169
Webster	12,008	11,619	11,210
Wheeler	2,292	1,362	1,683
York	18,721	18,205	17,279
The State	1,192,214	1,066,300	1,058,910

(a) Arthur county (population 91 in 1890) annexed to McPherson county since 1890.

NEVADA

COUNTY	1910	1900	1890
Churchill	2,811	830	703
Clark	3,321	.....	.....
Douglas	1,895	1,534	1,551
Elko	8,133	5,688	4,794
Esmeralda (a)	9,369	1,972	2,148
Eureka	1,830	1,954	3,275
Humboldt	6,825	4,463	3,434

NEVADA Cont'd.

COUNTY	1910	1900	1890
Lander	1,736	1,534	2,266
Lincoln	3,489	3,284	2,466
Lyon	3,568	2,268	1,987
Nye	7,513	1,140	1,290
Ormsby	3,415	2,893	4,883
Storey	3,045	3,673	8,806
Washoe	17,434	9,141	6,437
White Pine	7,441	1,961	1,721
The State	81,875	42,335	45,761

(a) Mineral county organized from part of Esmeralda County in February, 1911.

NEW HAMPSHIRE

COUNTY	1910	1900	1890
Belknap	21,309	19,526	20,321
Carroll	16,316	16,895	18,124
Cheshire	30,659	31,321	29,579
Coos	30,753	29,468	23,211
Grafton	41,652	40,844	37,217
Hillsboro	126,072	112,640	93,247
Merrimack	53,335	52,430	49,435
Rockingham	52,188	51,118	49,650
Strafford	38,951	39,337	38,442
Sullivan	19,337	18,009	17,304
The State	430,572	411,588	376,530

NEW JERSEY

COUNTY	1910	1900	1890
Atlantic	71,894	46,402	28,836
Bergen	138,002	78,441	47,226
Burlington	66,565	58,241	58,528
Camden	142,029	107,643	87,687
Cape May	19,745	13,201	11,268
Cumberland	55,153	51,193	45,438
Essex	512,886	359,053	256,098
Gloucester	37,368	31,905	28,649
Hudson	537,231	386,048	275,126
Hunterdon	33,569	34,507	35,355
Mercer	125,657	95,365	79,978
Middlesex	114,426	79,762	61,754
Monmouth	94,734	82,057	69,128
Morris	74,704	65,156	54,101
Ocean	21,318	19,747	15,974
Passaic	215,902	155,202	105,046
Salem	26,999	25,530	25,151
Somerset	38,820	32,948	28,311
Sussex	26,781	24,134	22,259
Union	140,197	99,353	72,467
Warren	43,187	37,781	36,553
The State	2,537,167	1,883,669	1,444,933

NEW MEXICO

COUNTY	1910	1900	1890
Bernalillo	23,606	28,630	20,913
Chaves	16,850	4,773	.....
Colfax	16,460	10,150	7,974
Curry	11,443	.....	.....
Dona Ana	12,893	10,187	9,191
Eddy	12,400	3,229	.....

STATES BY COUNTIES

NEW MEXICO Cont'd.

COUNTY	1910	1900	1890
Grant	14,813	12,883	9,657
Guadalupe	10,927	5,429	.....
Lincoln	7,822	4,953	7,081
Luna	3,913	.....	.....
McKinley	12,963	.....	.....
Mora	12,611	10,304	10,618
Otero	7,069	4,791	.....
Quay	14,912	.....	.....
Rio Arriba	16,624	13,777	11,534
Roosevelt	12,064	.....	.....
Sandoval	8,579	.....	.....
San Juan	8,504	4,828	1,890
San Miguel	22,930	22,053	24,204
Santa Fe	14,770	14,658	13,562
Sierra	3,536	3,158	3,630
Socorro	14,761	12,195	9,595
Taos	12,008	10,889	9,868
Torrance	10,119	.....	.....
Union	11,404	4,528	.....
Valencia	13,320	13,895	13,876
The State	327,301	195,310	153,593

NEW YORK

COUNTY	1910	1900	1890
Albany	173,666	165,571	164,555
Allegany	41,412	41,501	43,240
Broome	78,809	69,149	62,973
Cattaraugus	65,919	65,643	60,866
Cayuga	67,106	66,234	65,302
Chautauqua	105,126	88,314	75,202
Chemung	54,662	54,063	48,265
Chenango	35,575	36,568	37,776
Clinton	48,230	47,430	46,437
Columbia	43,658	43,211	46,172
Cortland	29,249	27,576	28,657
Delaware	45,575	46,413	45,496
Dutchess	87,661	81,670	77,879
Erie	528,985	433,686	322,981
Essex	33,458	30,707	33,052
Franklin	45,717	42,853	38,110
Fulton	44,534	42,842	37,650
Genesee	37,615	34,561	33,265
Greene	30,214	31,478	31,598
Hamilton	4,373	4,947	4,762
Herkimer	56,356	51,049	45,608
Jefferson	80,382	76,748	68,806
Kings	1,634,351	1,166,582	838,547
Lewis	24,849	27,427	29,806
Livingston	38,037	37,059	37,801
Madison	39,289	40,545	42,892
Monroe	283,212	217,854	189,586
Montgomery	57,567	47,488	45,699
Nassau	83,930	55,448	.....
New York	2,762,522	2,050,600	1,515,301
Niagara	92,036	74,961	62,491
Oneida	154,157	132,800	122,922
Onondaga	200,298	168,735	146,247
Ontario	52,286	49,605	48,453
Orange	116,001	103,859	97,859
Orleans	32,000	30,164	30,803
Oswego	71,664	70,881	71,883
Otsego	47,216	48,939	50,861
Putnam	14,665	13,787	14,849
Queens	284,041	152,999	128,059
Rensselaer	122,276	121,697	124,511
Richmond	85,969	67,021	51,693

NEW YORK Cont'd.

COUNTY	1910	1900	1890
Rockland	46,873	38,298	35,162
St. Lawrence	89,005	89,083	85,048
Saratoga	61,917	61,089	57,663
Schenectady	88,235	46,852	29,797
Schoharie	23,855	26,854	29,164
Schuyler	14,004	15,811	16,711
Seneca	26,972	28,114	28,227
Steuben	83,362	82,822	81,473
Suffolk	96,138	77,582	62,491
Sullivan	33,808	32,306	31,031
Tioga	25,624	27,951	29,935
Tompkins	33,647	33,830	32,923
Ulster	91,769	88,422	87,062
Warren	32,223	29,943	27,866
Washington	47,778	45,624	45,690
Wayne	50,179	48,660	49,729
Westchester	283,055	184,257	146,772
Wyoming	31,880	30,413	31,193
Yates	18,642	20,318	21,001
The State	9,113,614	7,268,894	5,997,853

NORTH CAROLINA

COUNTY	1910	1900	1890
Alamance	28,712	25,665	18,271
Alexander	11,592	10,960	9,430
Alleghany	7,745	7,759	6,523
Anson	25,465	21,870	20,027
Ashe	19,074	19,581	15,628
Beaufort	30,877	26,404	21,072
Bertie	23,039	20,538	19,176
Bladen	18,006	17,677	16,763
Brunswick	14,432	12,657	10,900
Buncombe	49,798	44,288	35,266
Burke	21,408	17,699	14,939
Cabarrus	26,240	22,456	18,142
Caldwell	20,579	15,694	12,298
Camden	5,640	5,474	5,667
Cartaret	13,776	11,811	10,825
Caswell	14,858	15,028	16,028
Catawba	27,918	22,133	18,689
Chatham	22,635	23,912	25,413
Cherokee	14,136	11,860	9,976
Chowan	11,303	10,258	9,167
Clay	3,909	4,532	4,197
Cleveland	29,494	25,078	20,394
Columbus	28,020	21,274	17,856
Craven	25,594	24,160	20,533
Cumberland	35,284	29,249	27,321
Currituck	7,693	6,529	6,747
Dare	4,841	4,757	3,768
Davidson	29,404	23,403	21,702
Davie	13,394	12,115	11,621
Duplin	25,442	22,405	18,690
Durham	35,276	26,233	18,041
Edgecombe	32,010	26,591	24,113
Forsyth	47,311	35,261	28,434
Franklin	24,692	25,116	21,090
Gaston	37,063	27,903	17,764
Gates	10,455	10,413	10,252
Graham	4,749	4,343	3,313
Granville	25,102	23,263	24,484
Greene	13,083	12 038	10,039
Guilford	60,497	39,074	28,052
Halifax	37,646	30,793	28,908
Harnett	22,174	15,988	13,700
Haywood	21,020	16,222	13,346

NORTH CAROLINA Cont'd.

COUNTY	1910	1900	1890
Henderson	16,262	14,104	12,589
Hertford	15,436	14,294	13,851
Hyde	8,840	9,278	8,903
Iredell	34,315	29,064	25,462
Jackson	12,998	11,853	9,512
Johnston	41,401	32,250	27,239
Jones	8,721	8,226	7,403
Lee	11,376	.....	.....
Lenoir	22,769	18,639	14,879
Lincoln	17,132	15,498	12,586
McDowell	13,538	12,567	10,939
Macon	12,191	12,104	10,102
Madison	20,132	20,644	17,805
Martin	17,797	15,383	15,221
Mecklenburg	67,031	55,268	42,673
Mitchell	17,245	15,221	12,807
Montgomery	14,967	14,197	11,239
Moore	17,010	23,622	20,479
Nash	33,727	25,478	20,707
New Hanover	32,037	25,785	24,026
Northampton	22,323	21,150	21,242
Onslow	14,125	11,940	10,303
Orange	15,064	14,690	14,948
Pamlico	9,966	8,045	7,146
Pasquotank	16,693	13,660	10,748
Pender	15,471	13,381	12,514
Perquimans	11,054	10,091	9,293
Person	17,356	16,685	15,151
Pitt	36,340	30,889	25,519
Polk	7,640	7,004	5,902
Randolph	29,491	28,232	25,195
Richmond	19,673	15,855	23,948
Robeson	51,945	40,371	31,483
Rockingham	36,442	33,163	25,363
Rowan	37,521	31,066	24,123
Rutherford	28,385	25,101	18,770
Sampson	29,982	26,380	25,096
Scotland	15,363	12,553	.....
Stanly	19,909	15,220	12,136
Stokes	20,151	19,866	17,199
Surry	29,705	25,515	19,281
Swain	10,403	8,401	6,577
Transylvania	7,191	6,620	5,881
Tyrrell	5,219	4,980	4,225
Union	33,277	27,156	21,259
Vance	19,425	16,684	17,581
Wake	63,229	54,626	49,207
Warren	20,266	19,151	19,360
Washington	11,062	10,608	10,200
Watauga	13,556	13,417	10,611
Wayne	35,698	31,356	26,100
Wilkes	30,282	26,872	22,675
Wilson	28,269	23,596	18,644
Yadkin	15,428	14,083	13,790
Yancey	12,072	11,464	9,490
The State	2,206,287	1,893,810	1,617,949

NORTH DAKOTA

COUNTY	1910	1900	1890
Adams	5,407	.....	.....
Barnes	18,066	13,159	7,045
Benson	12,681	8,320	2,460
Billings	10,186	975	170
Bottineau	17,295	7,532	2,893
Bowman	4,668	.....	6
Burke	9,064	.....	.....

NORTH DAKOTA Cont'd.

COUNTY	1910	1900	1890
Burleigh	13,087	6,081	4,247
Cass	33,935	28,625	19,613
Cavalier	15,659	12,580	6,471
Dickey	9,839	5,061	5,573
Divide	6,015	.....	.....
Dunn	5,302	.....	159
Eddy	4,800	3,330	1,377
Emmons	9,796	4,349	1,971
Foster	5,313	3,770	1,210
Grand Forks	27,888	24,459	18,357
Griggs	6,274	4,744	2,817
Hettinger	6,557	.....	.....
Kidder	5,962	1,754	1,211
Lamoure	10,724	6,048	3,187
Logan	6,168	1,625	597
McHenry	17,627	5,253	1,584
McIntosh	7,251	4,818	3,248
McKenzie	5,720	.....	3
McLean	14,496	4,791	860
Mercer	4,747	1,778	428
Morton	25,289	8,069	4,728
Mountrail	8,491	.....	.....
Nelson	10,140	7,316	4,293
Oliver	3,577	990	464
Pembina	14,749	17,869	14,334
Pierce	9,740	4,765	905
Ramsey	15,199	9,198	4,418
Ransom	10,345	6,919	5,393
Renville	7,840	.....	.....
Richland	19,659	17,387	10,751
Rolette	9,558	7,995	2,427
Sargent	9,202	6,039	5,076
Sheridan	8,103	.....	.....
Stark	12,504	7,621	2,304
Steele	7,616	5,888	3,777
Stutsman	18,189	9,143	5,266
Towner	8,963	6,491	1,450
Traill	12,545	13,107	10,217
Walsh	19,491	20,288	16,587
Ward	25,281	7,961	1,681
Wells	11,814	8,310	1,212
Williams	14,234	1,530	.....
The State	577,056	a319,146	b182,719

(a) Includes population (2,208) of Standing Rock Indian reservation, not returned by counties in 1900.

(b) Includes population (809) of Fort Yates and Standing Rock Indian Agency, and of Church, Renville, Stevens, and Williams counties.

OHIO

COUNTY	1910	1900	1890
Adams	24,755	26,328	26,093
Allen	56,580	47,976	40,644
Ashland	22,975	21,184	22,223
Ashtabula	59,547	51,448	43,655
Athens	47,798	38,730	35,194
Auglaize	31,246	31,192	28,100
Belmont	76,856	60,875	57,413
Brown	24,832	28,237	29,899
Butler	70,271	56,870	48,597
Carroll	15,761	16,811	17,566
Champaign	26,351	26,642	26,980
Clark	66,435	58,939	52,277

OHIO Cont'd.

COUNTY	1910	1900	1890
Clermont	29,551	31,610	33,553
Clinton	23,680	24,202	24,240
Columbiana	76,619	68,590	59,029
Coshocton	30,121	29,337	26,703
Crawford	34,036	33,915	31,927
Cuyahoga	637,425	439,120	309,970
Darke	42,933	42,532	42,961
Defiance	24,498	26,387	25,769
Delaware	27,182	26,401	27,189
Erie	38,327	37,650	35,462
Fairfield	39,201	34,259	33,939
Fayette	21,744	21,725	22,309
Franklin	221,567	164,460	124,087
Fulton	23,914	22,801	22,023
Gallia	25,745	27,918	27,005
Geauga	14,670	14,744	13,489
Greene	29,733	31,613	29,820
Guernsey	42,716	34,425	28,645
Hamilton	460,732	409,479	374,573
Hancock	37,860	41,993	42,563
Hardin	30,407	31,187	28,939
Harrison	19,076	20,486	20,830
Henry	25,119	27,282	25,080
Highland	28,711	30,982	29,048
Hocking	23,650	24,398	22,658
Holmes	17,909	19,511	21,139
Huron	34,206	32,330	31,949
Jackson	30,791	34,248	28,408
Jefferson	65,423	44,357	39,415
Knox	30,181	27,768	27,600
Lake	22,927	21,680	18,235
Lawrence	39,488	39,534	39,556
Licking	55,590	47,070	43,279
Logan	30,084	30,420	27,386
Lorain	76,037	54,857	40,295
Lucas	192,728	153,559	102,296
Madison	19,902	20,590	20,057
Mahoning	116,151	70,134	55,979
Marion	33,971	28,678	24,727
Medina	23,598	21,958	21,742
Meigs	25,594	28,620	29,813
Mercer	27,536	28,021	27,220
Miami	45,047	43,105	39,754
Monroe	24,244	27,031	25,175
Montgomery	163,763	130,146	100,852
Morgan	16,097	17,905	19,143
Morrow	16,815	17,879	18,120
Muskingum	57,488	53,185	51,210
Noble	18,601	19,466	20,753
Ottawa	22,360	22,213	21,974
Paulding	22,730	27,528	25,932
Perry	35,396	31,841	31,151
Pickaway	26,158	27,016	26,959
Pike	15,723	18,172	17,482
Portage	30,307	29,246	27,868
Preble	23,834	23,713	23,421
Putnam	29,972	32,525	30,188
Richland	47,667	44,289	38,072
Ross	40,069	40,940	39,454
Sandusky	35,171	34,311	30,617
Scioto	48,463	40,981	35,377
Seneca	42,421	41,163	40,869
Shelby	24,663	24,625	24,707
Stark	122,987	94,747	84,170
Summit	108,253	71,715	54,089
Trumbull	52,766	46,591	42,373
Tuscarawas	57,035	53,751	46,618
Union	21,871	22,342	22,860

OHIO Cont'd.

COUNTY	1910	1900	1890
Van Wert	29,119	30,394	29,671
Vinton	13,096	15,330	16,045
Warren	24,497	25,584	25,468
Washington	45,422	48,245	42,380
Wayne	38,058	37,870	39,005
Williams	25,198	24,953	24,897
Wood	46,330	51,555	44,392
Wyandot	20,760	21,125	21,722
The State	4,767,121	4,157,545	3,672,316

OKLAHOMA

COUNTY	1910	1907
Adair	10,535	9,115
Alfalfa	18,138	16,070
Atoka	13,808	12,113
Beaver	13,631	13,364
Beckham	19,699	17,758
Blaine	17,960	17,227
Bryan	29,854	27,865
Caddo	35,685	30,241
Canadian	23,501	20,110
Carter	25,358	26,402
Cherokee	16,778	14,274
Choctaw	21,862	17,340
Cimarron	4,553	5,927
Cleveland	18,843	18,460
Coa	15,817	15,585
Comanche	39,855	31,738
Craig	17,404	14,955
Creek	26,223	18,365
Custer	23,231	18,478
Delaware	11,469	9,876
Dewey	14,132	13,329
Ellis	15,375	13,978
Garfield	33,050	28,300
Garvin	26,545	22,787
Grady	30,309	23,420
Grant	18,760	17,638
Greer	16,449	23,624
Harmon	11,328	.....
Harper	8,189	8,089
Haskell	18,875	16,865
Hughes	24,040	19,945
Jackson	23,737	17,087
Jefferson	17,430	13,439
Johnston	16,734	18,672
Kay	26,999	24,757
Kingfisher	18,825	18,010
Kiowa	17,478	22,247
Latimer	11,321	9,340
Le Flore	29,127	24,678
Lincoln	34,779	37,293
Logan	31,740	30,711
Love	10,236	11,134
McClain	15,659	12,888
McCurtain	20,681	13,198
McIntosh	20,961	17,975
Major	15,248	14,307
Marshall	11,619	13,144
Mayes	13,596	11,064
Murray	12,744	11,948
Muskogee	52,743	37,467
Noble	14,945	14,198
Nowata	14,223	10,453
Okfuskee	19,995	15,595
Oklahoma	85,232	55,849

OKLAHOMA Cont'd.

COUNTY	1910	1907
Okmulgee	21,115	14,362
Osage	20,101	15,332
Ottawa	15,713	12,827
Pawnee	17,332	17,112
Payne	23,735	22,022
Pittsburg	47,650	37,677
Pontotoc	24,331	23,057
Pottawatomie	43,595	43,272
Pushmataha	10,118	8,295
Roger Mills	12,861	13,239
Rogers	17,736	15,485
Seminole	19,964	14,687
Sequoyah	25,005	22,499
Stephens	22,252	20,148
Swanson	11,682	.....
Texas	14,249	16,448
Tillman	18,650	12,869
Tulsa	34,995	21,693
Wagoner	22,086	19,529
Washington	17,484	12,813
Washita	25,034	22,007
Woods	17,567	15,517
Woodward	16,592	14,595
The State	1,657,155	1,414,177

OREGON

COUNTY	1910	1900	1890
Baker	18,076	15,597	6,764
Benton	10,663	6,706	8,650
Clackamas	29,931	19,658	15,233
Clatsop	16,106	12,765	10,016
Columbia	10,580	6,237	5,191
Coos	17,959	10,324	8,874
Crook	9,315	3,964	3,244
Curry	2,044	1,868	1,709
Douglas	19,674	14,565	11,864
Gilliam	3,701	3,201	3,600
Grant	5,607	5,948	5,080
Harney	4,059	2,598	2,559
Hood River	8,016	.....	.....
Jackson	25,756	13,698	11,455
Josephine	9,567	7,517	4,878
Klamath	8,554	3,970	2,444
Lake	4,658	2,847	2,604
Lane	33,783	19,604	15,198
Lincoln	5,587	3,575	.....
Linn	22,662	18,603	16,265
Malheur	8,601	4,203	2,601
Marion	39,780	27,713	22,934
Morrow	4,357	4,151	4,205
Multnomah	226,261	103,167	74,884
Polk	13,469	9,923	7,858
Sherman	4,242	3,477	1,792
Tillamook	6,266	4,471	2,932
Umatilla	20,309	18,049	13,381
Union	16,191	16,070	12,044
Wallowa	8,364	5,538	3,661
Wasco	16,336	13,199	9,183
Washington	21,522	14,467	11,972
Wheeler	2,484	2,443	.....
Yamhill	18,285	13,420	10,692
The State	672,765	413,536	313,767

PENNSYLVANIA

COUNTY	1910	1900	1890
Adams	34,319	34,496	33,486
Allegheny	1,018,463	775,058	551,959
Armstrong	67,880	52,551	46,747
Beaver	78,353	56,432	50,077
Bedford	38,879	39,468	38,644
Berks	183,222	159,615	137,327
Blair	108,858	85,099	70,866
Bradford	54,526	59,403	59,233
Bucks	76,530	71,190	70,615
Butler	72,689	56,962	55,339
Cambria	166,131	104,837	66,375
Cameron	7,644	7,048	7,238
Carbon	52,846	44,510	38,624
Center	43,424	42,894	43,269
Chester	109,213	95,695	89,377
Clarion	36,638	34,283	36,802
Clearfield	93,768	80,614	69,565
Clinton	31,545	29,197	28,685
Columbia	48,467	39,896	36,832
Crawford	61,565	68,643	65,324
Cumberland	54,479	50,344	47,271
Dauphin	136,152	114,443	96,977
Delaware	117,906	94,762	74,683
Elk	35,871	32,903	22,239
Erie	115,517	98,473	86,074
Fayette	167,449	110,412	80,006
Forest	9,435	11,039	8,482
Franklin	59,775	54,902	51,433
Fulton	9,703	9,924	10,137
Greene	28,882	28,281	28,935
Huntingdon	38,304	34,650	35,751
Indiana	66,210	42,556	42,175
Jefferson	63,090	59,113	44,005
Juniata	15,013	16,054	16,655
Lackawanna	259,570	193,831	142,088
Lancaster	167,029	159,241	149,095
Lawrence	70,032	57,042	37,517
Lebanon	59,565	53,827	48,131
Lehigh	118,832	93,893	76,631
Luzerne	343,186	257,121	201,203
Lycoming	80,813	75,663	70,579
McKean	47,868	51,343	46,863
Mercer	77,699	57,387	55,744
Mifflin	27,785	23,160	19,996
Monroe	22,941	21,161	20,111
Montgomery	169,590	138,995	123,290
Montour	14,868	15,526	15,645
Northampton	127,667	99,687	84,220
Northumberland	111,420	90,911	74,698
Perry	24,136	26,263	26,276
Philadelphia	1,549,008	1,293,697	1,046,964
Pike	8,033	8,766	9,412
Potter	29,729	30,621	22,778
Schuylkill	207,894	172,927	154,163
Snyder	16,800	17,304	17,651
Somerset	67,717	49,461	37,317
Sullivan	11,293	12,134	11,620
Susquehanna	37,746	40,043	40,093
Tioga	42,829	49,086	52,313
Union	16,249	17,592	17,820
Venango	56,359	49,648	46,640
Warren	39,573	38,946	37,585
Washington	143,680	92,181	71,15.
Wayne	29,236	30,171	31,010
Westmoreland	231,304	160,175	112,819
Wyoming	15,509	17,152	15,891
York	136,405	116,413	99,489
The State	7,665,111	6,302,115	5,258,014

STATES BY COUNTIES

RHODE ISLAND

COUNTY	1910	1900	1890
Bristol	17,602	13,144	11,428
Kent	36,378	29,976	26,754
Newport	39,335	32,599	28,552
Providence	424,353	328,683	255,123
Washington	24,942	24,154	23,649
The State	542,610	428,556	345,506

SOUTH CAROLINA

COUNTY	1910	1900	1890
Abbeville	34,804	33,400	46,854
Aiken	41,849	39,032	31,822
Anderson	69,568	55,728	43,696
Bamberg	18,544	17,296	.....
Barnwell	34,209	35,504	44,613
Beaufort	30,355	35,495	34,119
Berkeley	23,487	30,454	55,428
Calhoun	16,634	.....	.....
Charleston	88,594	88,006	59,903
Cherokee	26,179	21,359	.....
Chester	29,425	28,616	26,660
Chesterfield	26,301	20,401	18,468
Clarendon	32,188	28,184	23,233
Colleton	35,390	33,452	40,293
Darlington	36,027	32,388	29,134
Dillon	22,615	.....	.....
Dorchester	17,891	16,294	.....
Edgefield	28,281	25,478	49,259
Fairfield	29,442	29,425	28,599
Florence	35,671	28,474	25,027
Georgetown	22,270	22,846	20,857
Greenville	68,371	53,490	44,310
Greenwood	34,225	28,343	.....
Hampton	25,126	23,738	20,544
Horry	26,995	23,364	19,256
Kershaw	27,094	24,696	22,361
Lancaster	26,650	24,311	20,761
Laurens	41,550	37,382	31,610
Lee	25,318	.....	.....
Lexington	32,040	27,264	22,181
Marion	20,596	35,181	29,976
Marlboro	31,189	27,639	23,500
Newberry	34,586	30,182	26,434
Oconee	27,337	23,634	18,687
Orangeburg	55,893	59,663	49,393
Pickens	25,422	19,375	16,389
Richland	55,143	45,589	36,821
Saluda	20,943	18,966	.....
Spartanburg	83,465	65,560	55,385
Sumter	38,472	51,237	43,605
Union	29,911	25,501	25,363
Williamsburg	37,626	31,685	27,777
York	47,718	41,684	38,831
The State	1,515,400	1,340,316	1,151,149

SOUTH DAKOTA

COUNTY	1910	1900	1890
Armstrong	647	8	34
Aurora	6,143	4,011	5,045
Beadle	15,776	8,081	9,586
Bonhomme	11,061	10,379	9,057
Brookings	14,178	12,561	10,132
Brown	25,867	15,286	16,855
Brule	6,451	5,401	6,737

SOUTH DAKOTA Cont'd.

COUNTY	1910	1900	1890
Buffalo	1,589	1,790	993
Butte	4,993	2,907	1,037
Campbell	5,244	4,527	3,510
Charles Mix	14,859	8,498	4,178
Clark	10,901	6,942	6,728
Clay	8,711	9,316	7,509
Codington	14,092	8,770	7,037
Corson	2,929	.....	.....
Custer	4,458	2,728	4,891
Davison	11,625	7,483	5,449
Day	14,372	12,254	9,168
Deuel	7,768	6,656	4,574
Dewey	1,145	.....	.....
Douglas	6,400	5,012	4,600
Edmunds	7,654	4,916	4,399
Fall River	7,763	3,541	4,478
Faulk	6,716	3,547	4,062
Grant	10,303	9,103	6,814
Gregory	13,061	2,211	295
Hamlin	7,475	5,945	4,625
Hand	7,870	4,525	6,546
Hanson	6,237	4,947	4,267
Harding	4,228	.....	.....
Hughes	6,271	3,684	5,044
Hutchinson	12,319	11,897	10,469
Hyde	3,307	1,492	1,860
Jerauld	5,120	2,798	3,605
Kingsbury	12,560	9,866	8,562
Lake	10,711	9,137	7,508
Lawrence	19,694	17,897	11,673
Lincoln	12,712	12,161	9,143
Lyman	10,848	2,632	233
McCook	9,589	8,689	6,448
McPherson	6,791	6,327	5,940
Marshall	8,021	5,942	4,544
Mellette	1,700	.....	.....
Meade	12,640	4,907	4,640
Miner	7,661	5,864	5,165
Minnehaha	29,631	23,926	21,879
Moody	8,695	8,326	5,941
Pennington	12,453	5,610	6,540
Perkins	11,348	.....	.....
Potter	4,466	2,988	2,910
Roberts	14,897	12,216	1,997
Sanborn	6,607	4,464	4,610
Schnasse	292	.....	.....
Spink	15,981	9,487	10,581
Stanley	14,975	1,341	1,028
Sterling	252	.....	96
Sully	2,462	1,715	2,412
Todd	2,164	.....	.....
Tripp	8,323	.....	.....
Turner	13,840	13,175	10,256
Union	10,676	11,153	9,130
Walworth	6,488	3,839	2,153
Yankton	13,135	12,649	10,444
Pine Ridge Indian reservation (c)	6,607	6,827	.....
Rosebud Indian reservation (c)	3,960	5,201	.....
The State	583,888	a401,570	b328,808

(a) Includes population (4,015) of Cheyenne and Standing Rock Indian reservations not returned by counties in 1900.

(b) Includes population (40) of Washington County in 1890.

SOUTH DAKOTA Cont'd.

(c) Includes unorganized counties (Bennett, Mellette, Shannon, Todd, Washabaugh, and Washington) for which population was not separately returned in 1910; part of Rosebud Indian reservation attached to Gregory and Tripp counties since 1900.

TENNESSEE

COUNTY	1910	1900	1890
Anderson	17,717	17,634	15,128
Bedford	22,667	23,845	24,739
Benton	12,452	11,888	11,230
Bledsoe	6,329	6,626	6,134
Blount	20,809	19,206	17,589
Bradley	16,336	15,759	13,607
Campbell	27,387	17,317	13,486
Cannon	10,825	12,121	12,197
Carroll	23,971	24,250	23,630
Carter	19,838	16,688	13,389
Cheatham	10,540	10,112	8,845
Chester	9,090	9,896	9,069
Claiborne	23,504	20,696	15,103
Clay	9,009	8,421	7,260
Cocke	19,399	19,153	16,523
Coffee	15,625	15,574	13,827
Crockett	16,076	15,867	15,146
Cumberland	9,327	8,311	5,376
Davidson	149,478	122,815	108,174
Decatur	10,093	10,439	8,995
Dekalb	15,434	16,460	15,650
Dickson	19,955	18,635	13,645
Dyer	27,721	23,776	19,878
Fayette	30,257	29,701	28,878
Fentress	7,446	6,106	5,226
Franklin	20,491	20,392	18,929
Gibson	41,630	39,408	35,859
Giles	32,629	33,035	34,957
Grainger	13,888	15,512	13,196
Greene	31,083	30,596	26,614
Grundy	8,322	7,802	6,345
Hamblen	13,650	12,728	11,418
Hamilton	89,267	61,695	53,482
Hancock	10,778	11,147	10,342
Hardeman	23,011	22,976	21,029
Hardin	17,521	19,246	17,698
Hawkins	23,587	24,267	22,246
Haywood	25,910	25,189	23,558
Henderson	17,030	18,117	16,336
Henry	25,434	24,208	21,070
Hickman	16,527	16,367	14,499
Houston	6,224	6,476	5,390
Humphreys	13,908	13,398	11,720
Jackson	15,036	15,039	13,325
James	5,210	5,407	4,903
Jefferson	17,755	18,590	16,478
Johnson	13,191	10,589	8,858
Knox	94,187	74,302	59,557
Lake	8,704	7,368	5,304
Lauderdale	21,105	21,971	18,756
Lawrence	17,569	15,402	12,286
Lewis	6,033	4,455	2,555
Lincoln	25,908	26,304	27,382
Loudon	13,612	10,838	9,273
McMinn	21,046	19,163	17,890
McNairy	16,356	17,760	15,510
Macon	14,559	12,881	10,878
Madison	39,357	36,333	30,497

TENNESSEE Cont'd.

COUNTY	1910	1900	1890
Marion	18,820	17,281	15,411
Marshall	16,872	18,763	18,906
Maury	40,456	42,703	38,112
Meigs	6,131	7,491	6,930
Monroe	20,716	18,585	15,329
Montgomery	33,672	36,017	29,697
Moore	4,800	5,706	5,975
Morgan	11,458	9 587	7,639
Obion	29,946	28,286	27,273
Overton	15,854	13,353	12,039
Perry	8,815	8,800	7,785
Pickett	5,087	5,366	4,736
Polk	14,116	11,357	8,361
Putnam	20,023	16,890	13,683
Rhea	15,410	14,318	12,647
Roane	22,860	22,738	17,418
Robertson	25,466	25,029	20,078
Rutherford	33,199	33,543	35,097
Scott	12,947	11,077	9,794
Sequatchie	4,202	3,326	3,027
Sevier	22,296	22,021	18,761
Shelby	191,439	153,557	112,740
Smith	18,548	19,026	18,404
Stewart	14,860	15,224	12,193
Sullivan	28,120	24,935	20,879
Sumner	25,621	26,072	23,668
Tipton	29,459	29,273	24,271
Trousdale	5,874	6,004	5,850
Unicoi	7,201	5,851	4,619
Union	11,414	12,894	11,459
Van Buren	2,784	3,126	2,863
Warren	16,534	16,410	14,413
Washington	28,968	22,604	20,354
Wayne	12,062	12,936	11,471
Weakley	31,929	32,546	28.955
White	15,420	14,157	12,348
Williamson	24,213	26,429	26,321
Wilson	25,394	27,078	27,148
The State	**2,184,789**	**2,020,616**	**1,767,518**

TEXAS

COUNTY	1910	1900	1890
Anderson	29,650	28,015	20,923
Andrews	975	87	24
Angelina	17,705	13,481	6,306
Aransas	2,106	1,716	1,824
Archer	6,525	2,508	2,101
Armstrong	2,682	1,205	944
Atascosa	10,004	7,143	6,459
Austin	17,699	20,676	17,859
Bailey	312	4	
Bandera	4,921	5,332	3,795
Bastrop	25,344	26,845	20,736
Baylor	8,411	3,052	2,595
Bee	12,090	7,720	3,720
Bell	49,186	45,535	33,377
Bexar	119,676	69,422	49,266
Blanco	4,311	4,703	4,649
Borden	1,386	776	222
Bosque	19,013	17,390	14,224
Bowie	34,827	26,676	20,267
Brazoria	13,299	14,861	11,506
Brazos	18,919	18,859	16,650
Brewster	5,220	2,356	710

STATES BY COUNTIES

TEXAS Cont'd.

COUNTY	1910	1900	1890
Briscoe	2,162	1,253	.....
Brown	22,935	16,019	11,421
Burleson	18,687	18,367	13,001
Burnet	10,755	10,528	10,747
Caldwell	24,237	21,765	15,769
Calhoun	3,635	2,395	815
Callahan	12,973	8,768	5,457
Cameron	27,158	16,095	14,424
Camp	9,551	9,146	6,624
Carson	2,127	469	356
Cass	27,587	22,841	22,554
Castro	1,850	400	9
Chambers	4,234	3,046	2,241
Cherokee	29,038	25,154	22,975
Childress	9,538	2,138	1,175
Clay	17,043	9,231	7,503
Cochran	65	25	.....
Coke	6,412	3,430	2,059
Coleman	22,618	10,077	6,112
Collin	49,021	50,087	36,736
Collingsworth	5,224	1,233	357
Colorado	18,897	22,203	19,512
Comal	8,434	7,008	6,398
Comanche	27,186	23,009	15,608
Concho	6,654	1,427	1,065
Cooke	26,603	27,494	24,696
Coryell	21,703	21,308	16,873
Cottle	4,396	1,002	240
Crane	331	51	15
Crockett	1,296	1,591	194
Crosby	1,765	788	346
Dallam	4,001	146	112
Dallas	135,748	82,726	67,042
Dawson	2,320	37	29
Deaf Smith	3,942	843	179
Delta	14,566	15,249	9,117
Denton	31,258	28,318	21,289
Dewitt	23,501	21,311	14,307
Dickens	3,092	1,151	295
Dimmit	3,460	1,106	1,049
Donley	5,284	2,756	1,056
Duval	8,964	8,483	7,598
Eastland	23,421	17,971	10,373
Ector	1,178	381	224
Edwards	3,768	3,108	1,970
Ellis	53,629	50,059	31,774
El Paso	52,599	24,886	15,678
Erath	32,095	29,966	21,594
Falls	35,649	33,342	20,706
Fannin	44,801	51,793	38,709
Fayette	29,796	36,542	31,481
Fisher	12,596	3,708	2,996
Floyd	4,638	2,020	529
Foard	5,726	1,568	.....
Fort Bend	18,168	16,538	10,586
Franklin	9,331	8,674	6,481
Freestone	20,557	18,910	15,987
Frio	8,895	4,200	3,112
Gaines	1,255	55	68
Galveston	44,479	44,116	31,476
Garza	1,995	185	14
Gillespie	9,447	8,229	7,056
Glasscock	1,143	286	208
Goliad	9,909	8,310	5,910
Gonzales	28,055	28,882	18,016
Gray	3,405	480	203
Grayson	65,996	63,661	53,211
Gregg	14,140	12,343	9,402

TEXAS Cont'd.

COUNTY	1910	1900	1890
Grimes	21,205	26,106	21,312
Guadalupe	24,913	21,385	15,217
Hale	7,566	1,680	721
Hall	8,279	1,670	703
Hamilton	15,315	13,520	9,313
Hansford	935	167	133
Hardeman	11,213	3,634	3,904
Hardin	12,947	5,049	3,956
Harris	115,693	63,786	37,249
Harrison	37,243	31,878	26,721
Hartley	1,298	377	252
Haskell	16,249	2,637	1,665
Hays	15,518	14,142	11,352
Hemphill	3,170	815	519
Henderson	20,131	19,970	12,285
Hidalgo	13,728	6,837	6,534
Hill	46,760	41,355	27,583
Hockley	137	44	.....
Hood	10,008	9,146	7,614
Hopkins	31,038	27,950	20,572
Houston	29,564	25,452	19,360
Howard	8,881	2,528	1,210
Hunt	48,116	47,295	31,885
Hutchinson	892	303	58
Irion	1,283	848	870
Jack	11,817	10,224	9,740
Jackson	6,471	6,094	3,281
Jasper	14,000	7,138	5,592
Jeff Davis	1,678	1,150	1,394
Jefferson	38,182	14,239	5,857
Johnson	34,460	33,819	22,313
Jones	24,299	7,053	3,797
Karnes	14,942	8,681	3,637
Kaufman	35,323	33,376	21,598
Kendall	4,517	4,103	3,826
Kent	2,655	899	324
Kerr	5,505	4,980	4,462
Kimble	3,261	2,503	2,243
King	810	490	173
Kinney	3,401	2,447	3,781
Knox	9,625	2,322	1,134
Lamar	46,544	48,627	37,304
Lamb	540	31	4
Lampasas	9,532	8,625	7,584
La Salle	4,747	2,303	2,134
Lavaca	26,418	28,121	21,887
Lee	13,132	14,595	11,952
Leon	16,583	18,072	13,841
Liberty	10,686	8,102	4,230
Limestone	34,621	32,573	21,678
Lipscomb	2,634	790	632
Live Oak	3,442	2,268	2,055
Llano	6,520	7,301	6,772
Loving	249	33	3
Lubbock	3,624	293	33
Lynn	1,713	17	24
McCulloch	13,405	3,960	3,217
McLennan	73,250	59,772	39,204
McMullen	1,091	1,024	1,038
Madison	10,318	10,432	8,512
Marion	10,472	10,754	10,862
Martin	1,549	332	264
Mason	5,683	5,573	5,180
Matagorda	13,594	6,097	3,985
Maverick	5,151	4,066	3,698
Medina	13,415	7,783	5,730
Menard	2,707	2,011	1,215
Midland	3,464	1,741	1,033

TEXAS Cont'd.

COUNTY	1910	1900	1890
Milam	36,780	39,666	24,773
Mills	9,694	7,851	5,493
Mitchell	8,956	2,855	2,059
Montague	25,123	24,800	18,863
Montgomery	15,679	17,067	11,765
Moore	561	209	15
Morris	10,439	8,220	6,580
Motley	2,396	1,257	139
Nacogdoches	27,406	24,663	15,984
Navarro	47,070	43,374	26,373
Newton	10,850	7,282	4,650
Nolan	11,999	2,611	1,573
Nueces	21,955	10,439	8,093
Ochiltree	1,602	267	198
Oldham	812	349	270
Orange	9,528	5,905	4,770
Palo Pinto	19,506	12,291	8,320
Panola	20,424	21,404	14,328
Parker	26,331	25,823	21,682
Parmer	1,555	34	7
Pecos	2,071	2,360	1,326
Polk	17,459	14,447	10,332
Potter	12,424	1,820	849
Presidio	5,218	3,673	1,698
Rains	6,787	6,127	3,909
Randall	3,312	963	187
Reagan	392	.....	.....
Red River	28,564	29,893	21,452
Reeves	4,392	1,847	1,247
Refugio	2,814	1,641	1,239
Roberts	950	620	326
Robertson	27,454	31,480	26,506
Rockwall	8,072	8,531	5,972
Runnels	20,858	5,379	3,193
Rusk	26,946	26,099	18,559
Sabine	8,582	6,394	4,969
San Augustine	11,264	8,434	6,688
San Jacinto	9,542	10,277	7,360
San Patricio	7,307	2,372	1,312
San Saba	11,245	7,569	6,641
Schleicher	1,893	515	155
Scurry	10,924	4,158	1,415
Shackelford	4,201	2,461	2,012
Shelby	26,423	20,452	14,365
Sherman	1,376	104	34
Smith	41,746	37,370	28,324
Somervell	3,931	3,498	3,419
Starr	13,151	11,469	10,749
Stephens	7,980	6,466	4,926
Sterling	1,493	1,127	.....
Stonewall	5,320	2,183	1,024
Sutton	1,569	1,727	658
Swisher	4,012	1,227	100
Tarrant	108,572	52,376	41,142
Taylor	26,293	10,499	6,957
Terrell	1,430	.....	.....
Terry	1,474	48	21
Throckmorton	4,563	1,750	902
Titus	16,422	12,292	8,190
Tom Green	17,882	6,804	5,152
Travis	55,620	47,386	36,322
Trinity	12,768	10,976	7,648
Tyler	10,250	11,899	10,877
Upshur	19,960	16,266	12,695
Upton	501	48	52
Uvalde	11,233	4,647	3,804
Val Verde	8,613	5,263	2,874
Van Zandt	25,651	25,481	16,225
Victoria	14,990	13,678	8,737
Walker	16,061	15,813	12,874
Waller	12,138	14,246	10,888
Ward	2,389	1,451	77
Washington	25,561	32,931	29,161
Webb	22,503	21,851	14,842
Wharton	21,123	16,942	7,584
Wheeler	5,258	636	778
Wichita	16,094	5,806	4,831
Wilbarger	12,000	5,759	7,092
Williamson	42,228	38,072	25,909
Wilson	17,066	13,961	10,655
Winkler	442	60	18
Wise	26,450	27,116	24,134
Wood	23,417	21,048	13 932
Yoakum	602	26	4
Young	13,657	6,540	5,049
Zapata	3 809	4,760	3,562
Zavalla	1,889	792	1,097
The State	3,896,542	3,048,710	2,235,523

UTAH

COUNTY	1910	1900	1890
Beaver	4,717	3,613	3,340
Boxelder	13,894	10,009	7,642
Cache	23,062	18,139	15,509
Carbon	8,624	5,004	.....
Davis	10,191	7,996	6,751
Emery	6,750	4,657	5,076
Garfield	3,660	3,400	2,457
Grand	1,595	1,149	541
Iron	3,933	3,546	2,683
Juab	10,702	10,082	5,582
Kane	1,652	1,811	1,685
Millard	6,118	5,678	4,033
Morgan	2,467	2,045	1,780
Piute	1,734	1,954	2,842
Rich	1,883	1,946	1,527
Salt Lake	131,426	77,725	58,457
San Juan	2,377	1,023	365
Sanpete	16,704	16,313	13,146
Sevier	9,775	8,451	6,199
Summit	8,200	9,439	7,733
Tooele	7,924	7,361	3,700
Uinta	7,050	6,458	2,762
Utah	37,942	32,456	23,768
Wasatch	8,920	4,736	3,595
Washington	5,123	4,612	4,009
Wayne	1,749	1,907	.....
Weber	35,179	25,239	22,723
The State	373,351	276,749	207,905

VERMONT

COUNTY	1910	1900	1890
Addison	20,010	21,912	22,277
Bennington	21,378	21,705	20,448
Caledonia	26,031	24,381	23,436
Chittenden	42,447	39,600	35,389
Essex	7,384	8,056	9,511
Franklin	29,866	30,198	29,755
Grand Isle	3,761	4,462	3,843
Lamoille	12,585	12,289	12,831
Orange	18,703	19,313	19,575

STATES BY COUNTIES

VERMONT Cont'd.

COUNTY	1910	1900	1890
Orleans	23,337	22,024	22,101
Rutland	48,139	44,209	45,397
Washington	41,702	36,607	29,606
Windham	26,932	26,660	26,547
Windsor	33,681	32,225	31,706
The State	355,956	343,641	332,422

VIRGINIA

COUNTY	1910	1900	1890
Accomac	36,650	34,5[illegible]	27,277
Albemarle	29,871	28,473	32,379
Alexandria	10,231	6,430	18,597
Alleghany	14,173	16,330	9,283
Amelia	8,720	9,037	9,068
Amherst	18,932	17,864	17,551
Appomattox	8,904	9,662	9,589
Augusta	32,445	32,370	37,005
Bath	6,538	5,595	4,587
Bedford	29,549	30,356	31,213
Bland	5,154	5,497	5,129
Botetourt	17,727	17,161	14,854
Brunswick	19,244	18,217	17,245
Buchanan	12,334	9,692	5,867
Buckingham	15,204	15,266	14,383
Campbell	23,043	23,256	41,087
Caroline	16,596	16,709	16,681
Carroll	21,116	19,303	15,497
Charles City	5,253	5,040	5,066
Charlotte	15,785	15,343	15,077
Chesterfield	21,299	18,804	26,211
Clarke	7,468	7,927	8,071
Craig	4,711	4,293	3,835
Culpeper	13,472	14,123	13,233
Cumberland	9,195	8,996	9,482
Dickenson	9,199	7,747	5,077
Dinwiddie	15,442	15,374	13,515
Elizabeth City	21,225	19,460	16,168
Essex	9,105	9,701	10,047
Fairfax	20,536	18,580	16,655
Fauquier	22,526	23,374	22,590
Floyd	14,092	15,388	14,405
Fluvanna	8,323	9,050	9,508
Franklin	26,480	25,953	24,985
Frederick	12,787	13,239	17,880
Giles	11,623	10,793	9,090
Gloucester	12,477	12,832	11,653
Goochland	9,237	9,519	9,958
Grayson	19,856	16,853	14,394
Greene	6,937	6,214	5,622
Greenesville	11,890	9,758	8,230
Halifax	40,044	37,197	34,424
Hanover	17,200	17,618	17,402
Henrico	23,437	30,062	103,394
Henry	18,459	19,265	18,208
Highland	5,317	5,647	5,352
Isle of Wight	14,929	13,102	11,313
James City	6,336	5,732	5,643
King and Queen	9,576	9,265	9,669
King George	6,378	6,918	6,641
King William	8,547	8,380	9,605
Lancaster	9,752	8,949	7,191
Lee	23,840	19,856	18,216
Loudoun	21,167	21,948	23,274
Louisa	16,578	16,517	16,997
Lunenburg	12,780	11,705	11,372

VIRGINIA Cont'd.

COUNTY	1910	1900	1890
Madison	10,055	10,216	10,225
Mathews	8,922	8,239	7,584
Mecklenburg	28,956	26,551	25,359
Middlesex	8,852	8,220	7,458
Montgomery	17,268	15,852	17,742
Nansemond	26,886	23,078	19,692
Nelson	16,821	16,075	15,336
New Kent	4,682	4,865	5,511
Norfolk	52,744	50,780	77,038
Northampton	16,672	13,770	10,313
Northumberland	10,777	9,846	7,885
Nottoway	13,462	12,366	11,582
Orange	13,486	12,571	12,814
Page	14,147	13,794	13,092
Patrick	17,195	15,403	14,147
Pittsylvania	50,709	46,894	59,941
Powhatan	6,099	6,824	6,791
Prince Edward	14,266	15,045	14,694
Prince George	7,848	7,752	7,872
Princess Anne	11,526	11,192	9,510
Prince William	12,026	11,112	9,805
Pulaski	17,246	14,609	12,790
Rappahannock	8,044	8,843	8,678
Richmond	7,415	7,088	7,146
Roanoke	19,623	15,837	30,101
Rockbridge	21,171	21,799	23,062
Rockingham	34,903	33,527	31,299
Russell	23,474	18,031	16,126
Scott	23,814	22,694	21,694
Shenandoah	20,942	20,253	19,671
Smyth	20,326	17,121	13,360
Southampton	26,302	22,848	20,078
Spotsylvania	9,935	9,239	14,233
Stafford	8,070	8,097	7,362
Surry	9,715	8,469	8,256
Sussex	13,664	12,082	11,100
Tazewell	24,946	23,384	19,899
Warren	8,589	8,837	8,280
Warwick	6,041	4,888	6,650
Washington	32,830	28,995	29,020
Westmoreland	9,313	9,243	8,399
Wise	34,162	19,653	9,345
Wythe	20,372	20,437	18,019
York	7,757	7,482	7,596
Independent Cities	422,582	298,302	22,680
The State	2,061,612	1,854,184	1,655,980

WASHINGTON

COUNTY	1910	1900	1890
Adams	10,920	4,840	2,098
Asotin	5,831	3,366	1,580
Benton	7,937	.....	.....
Chehalis	35,590	15,124	9,249
Chelan	15,104	3,931	.....
Clallam	6,755	5,603	2,771
Clarke	26,115	13,419	11,709
Columbia	7,042	7,128	6,709
Cowlitz	12,561	7,877	5,917
Douglas	9,227	4,926	3,161
Ferry	4,800	4,562	.....
Franklin	5,153	486	696
Garfield	4,199	3,918	3,897
Grant	8,698	.....	.....
Island	4,704	1,870	1,787

WASHINGTON Cont'd.

COUNTY	1910	1900	1890
Jefferson	8,337	5,712	8,368
King	284,638	110,053	63,989
Kitsap	17,647	6,767	4,624
Kittitas	18,561	9,704	8,777
Klickitat	10,180	6,407	5,167
Lewis	32,127	15,157	11,499
Lincoln	17,539	11,969	9,312
Mason	5,156	3,810	2,826
Okanogan	12,887	4,689	1,467
Pacific	12,532	5,983	4,358
Pierce	120,812	55,515	50,940
San Juan	3,603	2,928	2,072
Skagit	29,241	14,272	8,747
Skamania	2,887	1,688	774
Snohomish	59,209	23,950	8,514
Spokane	139,404	57,542	37,487
Stevens	25,297	10,543	4,341
Thurston	17,581	9,927	9,675
Wahkiakum	3,285	2,819	2,526
Walla Walla	31,931	18,680	12,224
Whatcom	49,511	24,116	18,591
Whitman	33,280	25,360	19,109
Yakima	41,709	13,462	4,429
The State	1,141,990	518,103	349,390

WEST VIRGINIA

COUNTY	1910	1900	1890
Barbour	15,858	14,198	12,702
Berkeley	21,999	19,469	18,702
Boone	10,331	8,194	6,885
Braxton	23,023	18,904	13,928
Brooke	11,098	7,219	6,660
Cabell	46,685	29,252	23,595
Calhoun	11,258	10,266	8,155
Clay	10,233	8,248	4,659
Doddridge	12,672	13,689	12,183
Fayette	51,903	31,987	20,542
Gilmer	11,379	11,762	9,746
Grant	7,838	7,275	6,802
Greenbrier	24,833	20,683	18,034
Hampshire	11,694	11,806	11,419
Hancock	10,465	6,693	6,414
Hardy	9,163	8,449	7,567
Harrison	48,381	27,690	21,919
Jackson	20,956	22,987	19,021
Jefferson	15,889	15,935	15,553
Kanawha	81,457	54,696	42,756
Lewis	18,281	16,980	15,895
Lincoln	20,491	15,434	11,246
Logan	14,476	6,955	11,101
McDowell	47,856	18,747	7,300
Marion	42,794	32,430	20,721
Marshall	32,388	26,444	20,735
Mason	23,019	24,142	22,863
Mercer	38,371	23,023	16,002
Mineral	16,674	12,883	12,085
Mingo	19,431	11,359	.....
Monongalia	24,334	19,049	15,705
Monroe	13,055	13,130	12,429
Morgan	7,848	7,294	6,744
Nicholas	17,699	11,403	9,309
Ohio	57,572	48,024	41,557
Pendleton	9,349	9,167	8,711
Pleasants	8,074	9,345	7,539
Pocahontas	14,740	8,572	6,814

WEST VIRGINIA Cont'd.

COUNTY	1910	1900	1890
Preston	26,341	22,727	20,355
Putnam	18,587	17,330	14,342
Raleigh	25,633	12,436	9,597
Randolph	26,028	17,670	11,633
Ritchie	17,875	18,901	16,621
Roane	21,543	19,852	15,303
Summers	18,420	16,265	13,117
Taylor	16,554	14,978	12,147
Tucker	18,675	13,433	6,459
Tyler	16,211	18,252	11,962
Upshur	16,629	14,696	12,714
Wayne	24,081	23,619	18,652
Webster	9,680	8,862	4,783
Wetzel	23,855	22,880	16,841
Wirt	9,047	10,284	9,411
Wood	38,001	34,452	28,612
Wyoming	10,392	8,380	6,247
The State	1,221,119	958,800	762,794

WISCONSIN

COUNTY	1910	1900	1890
Adams	8,604	9,141	6,889
Ashland	21,965	20,176	20,063
Barron	29,114	23,677	15,416
Bayfield	15,987	14,392	7,390
Brown	54,098	46,359	39,164
Buffalo	16,006	16,765	15,997
Burnett	9,026	7,478	4,393
Calumet	16,701	17,078	16,639
Chippewa	32,103	33,037	25,143
Clark	30,074	25,848	17,708
Columbia	31,129	31,121	28,350
Crawford	16,288	17,286	15,987
Dane	77,435	69,435	59,578
Dodge	47,436	46,631	44,984
Door	18,711	17,583	15,682
Douglas	47,422	36,335	13,468
Dunn	25,260	25,043	22,664
Eau Claire	32,721	31,692	30,673
Florence	3,381	3,197	2,604
Fond du Lac	51,610	47,589	44,088
Forest	6,782	1,396	1,012
Grant	39,007	38,881	36,651
Green	21,641	22,719	22,732
Green Lake	15,491	15,797	15,163
Iowa	22,497	23,114	22,117
Iron	8,306	6,616	.....
Jackson	17,075	17,466	15,797
Jefferson	34,306	34,789	33,530
Juneau	19,569	20,629	17,121
Kenosha	32,929	21,707	15,581
Kewaunee	16,784	17,212	16,153
La Crosse	43,996	42,997	38,801
Lafayette	20,075	20,959	20,265
Langlade	17,062	12,553	9,465
Lincoln	19,064	16,269	12,008
Manitowoc	44,978	42,261	37,831
Marathon	55,054	43,256	30,369
Marinette	33,812	30,822	20,304
Marquette	10,741	10,509	9,676
Milwaukee	433,187	330,017	236,101
Monroe	28,881	28,103	23,211
Oconto	25,657	20,874	15,009
Oneida	11,433	8,875	5,010
Outagamie	49,102	46,247	38,690

WISCONSIN Cont'd.

COUNTY	1910	1900	1890
Ozaukee	17,123	16,363	14,943
Pepin	7,577	7,905	6,932
Pierce	22,079	23,943	20,385
Polk	21,367	17,801	12,968
Portage	30,945	29,483	24,798
Price	13,795	9,106	5,258
Racine	57,424	45,644	36,268
Richland	18,809	19,483	19,121
Rock	55,538	51,203	43,220
Rusk	11,160	.....	.....
St. Croix	25,910	26,830	23,139
Sauk	32,869	33,006	30,575
Sawyer	6,227	3,593	1,977
Shawano	31,884	27,475	19,236
Sheboygan	54,888	50,345	42,489
Taylor	13,641	11,262	6,731
Trempealeau	22,928	23,114	18,920
Vernon	28,116	28,351	25,111
Vilas	6,019	4,929	.....
Walworth	29,614	29,259	27,860
Washburn	8,196	5,521	2,926
Washington	23,784	23,589	22,751
Waukesha	37,100	35,229	33,270
Waupaca	32,782	31,615	26,794
Waushara	18,886	15,972	13,507
Winnebago	62,116	58,225	50,097
Wood	30,583	25,865	18,127
The State	2,333,860	2,069,042	1,686,880

WYOMING

COUNTY	1910	1900	1890
Albany	11,574	13,084	8,865
Bighorn	8,886	4,328	.....
Carbon	11,282	9,589	6,857
Converse	6,294	3,337	2,738
Crook	6,492	3,137	2,338
Fremont	11,822	5,357	2,463
Johnson	3,453	2,361	2,357
Laramie	26,127	20,181	16,777
Natrona	4,766	1,785	1,094
Park	4,909	.....	.....
Sheridan	16,324	5,122	1,972
Sweetwater	11,575	8,455	4,941
Uinta	16,982	12,223	7,414
Weston	4,960	3,203	2,422
National Park reservation	519	369	467
The State	145,965	92,531	60,705

Principal Cities of the United States

1910 CENSUS

The following list names approximately all cities in the United States having five thousand or more inhabitants. The numerals at extreme right of column are the 1910 census figures.

Capitals of States and Territories are indicated with an asterisk (*).

Aberdeen, S. Dak.	10,753	
Aberdeen, Wash.	13,660	
Abilene, Tex.	9,204	
Ada, Okla.	4,349	
Adams, Mass.	11,900	
Adrian, Mich.	10,763	
Akron, Ohio.	69,067	
Alameda, Cal.	23,383	
Albany, Ga.	8,190	
Albany, N. Y.*	100,253	
Albert Lea, Minn.	6,192	
Albion, Mich.	5,833	
Albion, N. Y.	5,016	
Albuquerque, N. M.	11,020	
Alexandria, Ind.	5,096	
Alexandria, La.	11,213	
Alexandria, Va.	15,329	
Alhambra, Cal.	5,021	
Allentown, Pa.	51,913	
Alliance, Ohio.	15,083	
Alpena, Mich.	12,706	
Alton, Ill.	17,528	
Altoona, Pa.	52,127	
Amarillo, Tex.	9,957	
Ambridge, Pa.	5,205	
Americus, Ga.	8,063	
Amesbury, Mass.	8,000	
Amsterdam, N. Y.	31,267	
Anaconda, Mont.	10,134	
Anderson, Ind.	22,476	
Anderson, S. C.	9,654	
Andover, Mass.	6,100	
Annapolis, Md.*	8,609	
Ann Arbor, Mich.	14,817	
Anniston, Ala.	12,794	
Ansonia, Conn.	15,152	
Antigo, Wis.	7,196	
Appleton, Wis.	16,773	
Archbald, Pa.	7,194	
Ardmore, Okla.	8,618	
Argenta, Ark.	11,138	
Arkansas City, Kan.	7,508	
Arlington, Mass.	8,900	
Asbury Park, N. J.	10,150	
Asheville, N. C.	18,762	
Ashland, Ky.	8,688	
Ashland, Ohio.	6,795	
Ashland, Ore.	5,020	
Ashland, Pa.	6,855	
Ashland, Wis.	11,594	
Ashley, Pa.	5,601	
Ashtabula, Ohio.	18,266	
Astoria, Ore.	9,599	
Atchison, Kan.	16,429	
Athens, Ga.	14,913	
Athens, Ohio.	5,463	
Athol, Mass.	6,000	
Atlanta, Ga.*	154,839	
Atlantic City, N. J.	46,150	
Attleboro, Mass.	12,400	
Auburn, Me.	15,064	
Auburn, N. Y.	34,668	
Augusta, Ga.	41,040	
Augusta, Me.*	13,211	
Aurora, Ill.	29,807	
Austin, Minn.	6,960	
Austin, Tex.*	29,860	
Baker City, Ore.	6,742	
Bakersfield, Cal.	12,727	
Baltimore, Md.	558,485	
Bangor, Me.	24,803	
Bangor, Pa.	5,369	
Baraboo, Wis.	6,324	
Barberton, Ohio.	9,410	
Barre, Vt.	10,734	
Bartlesville, Okla.	6,181	
Batavia, N. Y.	11,613	
Bath, Me.	9,396	
Baton Rouge, La.*	14,897	
Battle Creek, Mich.	25,267	
Bay City, Mich.	45,166	
Bayonne, N. J.	55,545	
Beardstown, Ill.	6,107	
Beatrice, Neb.	9,356	
Beaumont, Tex.	20,640	
Beaverdam, Wis.	6,758	
Beaver Falls, Pa.	12,191	
Bedford, Ind.	8,716	
Bellaire, Ohio.	12,946	
Bellefontaine, Ohio.	8,238	
Belleville, Ill.	21,122	
Bellevue, Ky.	6,683	
Bellevue, Ohio.	5,209	
Bellevue, Pa.	6,323	
Bellingham, Wash.	24,298	
Beloit, Wis.	15,125	
Belvidere, Ill.	7,253	
Bemidji, Minn.	5,099	
Bennington, Vt.	6,211	
Benton Harbor, Mich.	9,185	
Berkeley, Cal.	40,434	
Berkley, Va.	5,700	
Berlin, N. H.	11,780	
Berwick, Pa.	5,357	
Berwyn, Ill.	5,841	
Bessemer, Ala.	10,864	
Bethlehem, Pa.	12,837	
Beverly, Mass.	18,650	
Biddeford, Me.	17,079	
Billings, Mont.	10,031	
Biloxi, Miss.	7,988	
Binghamton, N. Y.	48,443	
Birmingham, Ala.	132,685	
Bisbee, Ariz.	9,019	
Bismarck, N. Dak.*	5,443	
Blakely, Pa.	5,345	
Bloomfield, N. J.	15,070	
Bloomington, Ill.	25,768	
Bloomington, Ind.	8,838	
Bloomsburg, Pa.	7,413	
Bluefield, W. Va.	11,188	
Blue Island, Ill.	8,043	
Boise, Idaho*	17,358	
Boone, Iowa	10,347	
Boston, Mass.*	670,585	
Boulder, Colo.	9,539	
Bowling Green, Ky.	9,173	
Bowling Green, Ohio.	5,222	
Boyne City, Mich.	5,218	
Bozeman, Mont.	5,107	
Braddock, Pa.	19,357	
Bradford, Pa.	14,544	
Brainerd, Minn.	8,526	
Brattleboro, Vt.	6,517	
Brazil, Ind.	9,340	
Brewer, Me.	5,667	
Bridgeport, Conn.	102,054	
Bridgeton, N. J.	14,209	
Bristol, Conn.	9,527	
Bristol, Pa.	9,256	
Bristol, R. I.	8,450	
Bristol, Tenn.	7,148	
Bristol, Va.	6,247	
Brockton, Mass.	56,878	
Brookfield, Mo.	5,749	
Brookhaven, Miss.	5,293	
Brookline, Mass.	27,792	
Brownsville, Tex.	10,517	
Brownwood, Tex.	6,967	
Brunswick, Ga.	10,182	
Brunswick, Me.	5,341	
Bucyrus, Ohio.	8,122	
Buffalo, N. Y.	423,715	
Burlington, Iowa	24,324	
Burlington, N. J.	8,336	
Burlington, Vt.	20,468	
Butler, Pa.	20,728	
Butte, Mont.	39,165	
Cadillac, Mich.	8,375	
Cairo, Ill.	14,548	
Calais, Me.	6,116	
Calumet, Mich.	30,000	
Cambridge, Md.	6,407	
Cambridge, Mass.	104,839	
Cambridge, Ohio	11,327	
Camden, N. J.	94,538	
Canal Dover, Ohio.	6,621	
Canandaigua, N. Y.	7,217	
Canon City, Colo.	5,162	
Canton, Ill.	10,453	
Canton, Ohio.	50,217	
Cape Girardeau, Mo.	8,475	
Carbondale, Ill.	5,411	
Carbondale, Pa.	17,040	
Carlisle, Pa.	10,303	
Carnegie, Pa.	10,009	
Carrick, Pa.	6,117	

Carson City, Nev.* .. 2,466	Connellsville, Pa..... 12,845	Easton, Pa..... 28,523
Carthage, Mo..... 9,483	Connersville, Ind..... 7.738	East Orange, N. J.... 34,371
Catasauqua, Pa..... 5,250	Conshohocken, Pa. .. 7,480	East Pittsburg, Pa.... 5,615
Catskill, N. Y..... 5,296	Coraopolis, Pa..... 5,252	East Providence, R. I. 13,500
Cedar Falls, Iowa.... 5,012	Cordele, Ga..... 5,883	East Saint Louis, Ill.. 58,547
Cedar Rapids, Iowa.. 32,811	Corinth, Miss..... 5,020	Eau Claire, Wis..... 18,310
Centerville, Iowa..... 6,936	Corning, N. Y..... 13.730	Edwardsville, Ill..... 5,014
Central Falls, R. I.... 22,754	Corpus Christi, Tex.. 8,222	Edwardsville, Pa..... 8,407
Centralia, Ill..... 9,680	Corry, Pa..... 5,991	Elberton, Ga..... 6,483
Centralia, Wash..... 7,311	Corsicana, Tex..... 9,749	Elgin, Ill..... 25,976
Chambersburg, Pa... 11,800	Cortland, N. Y..... 11,504	Elizabeth, N. J..... 73,409
Champaign, Ill..... 12,421	Coshocton, Ohio..... 9,603	Elizabeth City, N. C.. 8,412
Chanute, Kan..... 9,272	Council Bluffs, Iowa.. 29,292	Elkhart, Ind..... 19,282
Charleroi, Pa..... 9,615	Covington, Ky..... 53,270	Elkins, W. Va..... 5,260
Charles City, Iowa.... 5,892	Cranston, R. I..... 21,171	Elmira, N. Y..... 37,176
Charleston, Ill..... 5,884	Crawfordsville, Ind... 9,371	El Paso, Tex..... 39,279
Charleston, S. C..... 58,833	Creston, Iowa..... 6,924	El Reno, Okla..... 7,872
Charleston, W. Va.*.. 22,996	Cripple Creek, Colo.. 6,206	Elwood, Ind..... 11,028
Charlotte, N. C..... 34,014	Crookston, Minn..... 7,559	Elyria, Ohio..... 14,825
Charlottesville, Va. .. 6,765	Crowley, La..... 5,099	Emporia, Kan..... 9,058
Chattanooga, Tenn... 44,604	Cumberland, Md. 21,839	Englewood, N. J..... 9,924
Cheboygan, Mich 6,859	Dallas, Tex..... 92,104	Enid, Okla..... 13,799
Chelsea, Mass..... 32,452	Dalton, Ga..... 5,324	Ennis, Tex..... 5,669
Chester, Pa..... 38,537	Danbury, Conn..... 20,234	Erie, Pa..... 66,525
Cheyenne, Wyo.*..... 11,320	Danvers, Mass..... 7,950	Escanaba, Mich..... 13,194
Chicago, Ill..... 2,185,283	Danville, Ill..... 27,871	Etna, Pa..... 5,830
Chicago Heights, Ill.. 14,525	Danville, Ky..... 5,420	Eugene, Ore 9,009
Chickasha, Okla..... 10,320	Danville, Pa..... 7,517	Eureka, Cal..... 11,845
Chicopee, Mass..... 25,401	Danville, Va..... 19,020	Evanston, Ill..... 24,978
Chicopee Falls, Mass. 8,500	Darby, Pa..... 6,305	Evansville, Ind..... 69,647
Chillicothe, Mo..... 6,265	Davenport, Iowa..... 43,028	Eveleth, Minn..... 7,036
Chillicothe, Ohio..... 14,508	Dayton, Ky..... 6,979	Everett, Mass..... 33,484
Chippewa Falls, Wis.. 8,893	Dayton, Ohio..... 116,577	Everett, Wash..... 24,814
Chisholm, Minn..... 7,684	Decatur, Ill..... 31,140	Fairbury, Neb..... 5,294
Cicero, Ill..... 14,557	Defiance, Ohio. 7,327	Fairmont, W. Va..... 9,711
Cincinnati, Ohio....363,591	DeKalb, Ill. 8,102	Fall River, Mass.... 119,295
Circleville, Ohio..... 6,744	Delaware, Ohio..... 9,076	Fargo, N. Dak..... 14,331
Claremont, N. H..... 6,800	Delphos, Ohio..... 5,038	Faribault, Minn. 9,001
Clarksburg, W. Va.... 9,201	Denison, Tex..... 13,632	Fayetteville, N. C.... 7,045
Clarksville, Tenn. ... 8,548	Denver, Colo.*. 213,381	Fergus Falls, Minn... 6,887
Clearfield, Pa..... 6,851	Derby, Conn..... 8,991	Findlay, Ohio..... 14,858
Cleburne, Tex..... 10,364	Des Moines, Iowa*... 86,368	Fitchburg, Mass..... 37,826
Cleveland, Ohio. ... 560,663	Detroit, Mich. 465,766	Fitzgerald, Ga..... 5,795
Cleveland, Tenn..... 5,549	Devils Lake, N. Dak.. 5,157	Flat River, Mo..... 5,112
Clifton Forge, Va. ... 5,743	Dickinson, N. Dak... 3,678	Flint, Mich..... 38,550
Clinton, Ill..... 5,165	Dickson , Pa..... 9,331	Florence, Ala..... 6,689
Clinton, Ind..... 6,229	Dixon Ill..... 7,216	Florence, S. C..... 7,057
Clinton, Iowa..... 25,577	Donora, Pa. 8,174	Fond du Lac, Wis.... 18,797
Clinton, Mass..... 13,000	Dothan, Ala..... 7,016	Forest City, Pa. 5,749
Cloquet, Minn..... 7,031	Douglas, Ariz..... 6,437	Forest Park, Ill..... 6,594
Coaldale, Pa. 5,154	Dover, Del.*..... 3,720	Fort Collins, Colo.... 8,210
Coatesville, Pa..... 11,084	Dover, N. H..... 13,247	Fort Dodge, Iowa.... 15,543
Coeur d'Alene, Idaho. 7,291	Dover, N. J..... 7,468	Fort Madison, Iowa.. 8,900
Coffeyville, Kan. 12,687	Dowagiac, Mich..... 5,088	Fort Scott, Kan..... 10,463
Cohoes, N. Y..... 24,709	Dublin, Ga..... 5,795	Fort Smith, Ark..... 23,975
Coldwater, Mich..... 5,945	Dubois, Pa..... 12,623	Fort Wayne, Ind..... 63,933
Collinsville, Ill..... 7,478	Dubuque, Iowa..... 38,494	Fort Worth, Tex..... 73,312
Colorado Springs,	Duluth, Minn..... 78,466	Fostoria, Ohio..... 9,597
Colo..... 29,078	Dunkirk, N. Y..... 17,221	Frankfort, Ind..... 8,634
Columbia, Mo..... 9,662	Dunmore, Pa..... 17,615	Frankfort, Ky.*..... 10,465
Columbia, Pa..... 11,454	Duquesne, Pa..... 15,727	Franklin, N. H. 6,132
Columbia, S. C.*..... 26,319	Duquoin, Ill..... 5,454	Franklin, Pa. 9,767
Columbia, Tenn..... 5,754	Durant, Okla..... 5,330	Frederick, Md..... 10,411
Columbus, Ga..... 20,554	Durham, N. C..... 18,241	Fredericksburg, Va... 5,874
Columbus, Ind. 8.813	Duryea, Pa..... 7,487	Fredonia, N. Y..... 5,285
Columbus, Miss. 8,988	East Chicago, Ind.... 19,098	Freeland, Pa..... 6,197
Columbus, Neb..... 5,014	East Cleveland, Ohio. 9,179	Freeport, Ill..... 17,567
Columbus, Ohio.*.. 181,511	East Conemaugh, Pa. 5,046	Fremont, Neb..... 8,718
Concord, N. H.*..... 21,497	Easthampton, Mass.. 8,110	Fremont, Ohio..... 9,939
Concord, N. C..... 8,715	East Hartford, Conn.. 5,500	Fresno, Cal. 24,892
Conneaut, Ohio..... 8,319	East Liverpool, Ohio. 20,387	Frostburg, Md..... 6,028

Fulton, Mo. 5,228	Harvey, Ill. 7,227	Johnson City, Tenn. 8,502
Fulton, N. Y. 10,480	Hastings, Neb. 9,338	Johnstown, N. Y. 10,447
Gadsden, Ala. 10,557	Hattiesburg, Miss. 11,733	Johnstown, Pa. 55,482
Gainesville, Fla. 6,183	Haverhill, Mass. 44,115	Joliet, Ill. 34,670
Gainesville, Ga. 5,925	Haverstraw, N. Y. 5,669	Jonesboro, Ark. 7,123
Gainesville, Tex. 7,624	Hazleton, Pa. 25,452	Joplin, Mo. 32,073
Galena, Kan. 6,096	Helena, Ark. 8,772	Junction City, Kan. 5,598
Galesburg, Ill. 22,089	Helena, Mont.* 12,515	Juniata, Pa. 5,285
Galion, Ohio. 7,214	Henderson, Ky. 11,452	Kalamazoo, Mich. 39,437
Gallipolis, Ohio 5,560	Herkimer, N. Y. 7,520	Kalispell, Mont. 5,549
Galveston, Tex. 36,981	Herrin, Ill. 6,861	Kane, Pa. 6,626
Gardiner, Me. 5,311	Hibbing, Minn. 8,832	Kankakee, Ill. 13,986
Gardner, Mass. 13,910	Highpoint, N. C. 9,525	Kansas City, Kan. 82,331
Garfield, N. J. 10,213	Hillsboro, Tex. 6,115	Kansas City, Mo. 248,381
Gary, Ind. 16,802	Hillsdale, Mich. 5,001	Kearney, Neb. 6,202
Gastonia, N. C. 5.759	Hoboken, N. J. 70,324	Kearny, N. J. 18,659
Geneva, N. Y. 12,446	Holland, Mich. 10,490	Keene, N. H. 10,068
Georgetown, S. C. 5,530	Holyoke, Mass. 57,730	Kenosha, Wis. 21,371
Gilberton, Pa. 5,401	Homestead, Pa. 18,713	Kenton, Ohio. 7,185
Glassport, Pa. 5,540	Hoosick Falls N. Y. 5,532	Keokuk, Iowa. 14,008
Glen Cove, N. Y. 7,600	Hopkinsville, Ky. 9,419	Kewanee, Ill. 9.307
Glens Falls, N. Y. 15,243	Hoquiam, Wash. 8,171	Key West, Fla. 19,945
Globe, Ariz. 7,083	Hornell, N. Y. 13,617	Kingston, N. Y. 25,908
Gloucester, Mass. 24,398	Hot Springs Ark. 14,434	Kingston, Pa. 6,449
Gloucester City, N. J. 9,462	Houghton, Mich. 5,113	Kinston, N. C. 6,995
Gloversville N. Y. 20,642	Houlton, Me. 5,700	Kirksville, Mo. 6,347
Goldsboro, N. C. 6,107	Houma, La. 5,024	Knoxville, Pa. 5,651
Goshen, Ind. 8,514	Houston, Tex. 78,800	Knoxville, Tenn. 36,346
Gratton, W. Va. 7,563	Houston Heights, Tex 6,984	Kokomo, Ind. 17,010
Grand Forks, N. Dak. 12,478	Hudson, Mass. 5,200	Lackawanna, N. Y. 14,549
Grand Haven, Mich. 5,856	Hudson, N. Y. 11,417	Laconia, N. H. 10,183
Grand Island, Neb. 10,326	Hudson Falls, N. Y. 5,189	La Crosse, Wis. 30,417
Grand Junction, Colo. 7,754	Hugo, Okla. 4,582	Lafayette, Ind. 20,081
Grand Rapids, Mich. 112,571	Huntingdon, Pa. 6,861	Lafayette, La. 6,392
Grand Rapids, Wis. 6,521	Huntington, Ind. 10,272	Lagrange, Ga. 5,587
Granite City, Ill. 9,903	Huntington, N. Y. 5,000	Lagrange, Ill. 5,282
Great Falls, Mont. 13,948	Huntington, W. Va. 31,161	Lake Charles, La. 11,449
Greeley, Colo. 8,179	Huntsville, Ala. 7,611	Lake City, Fla. 5,032
Greenbay, Wis. 25,236	Huron, S. Dak 5,791	Lakewood, Ohio. 15,181
Greenfield, Mass. 9,910	Hutchinson, Kan. 16,364	Lancaster, Ohio. 13,093
Greensboro, N. C. 15,895	Hyde Park, Mass. 14,507	Lancaster, Pa. 47,227
Greensburg, Ind. 5,420	Ilion, N. Y. 6,588	Lansford, Pa. 8,321
Greensburg, Pa. 13,012	Independence, Kan. 10.480	Lansing, Mich.* 31,229
Greenville, Miss. 9,610	Independence, Mo. 9,859	Lapo.te, Ind. 10,525
Greenville, Ohio. 6,237	Indiana, Pa. 5,749	Laramie, Wyo. 8,237
Greenville, Pa. 5,909	Indianapolis, Ind.* 233,650	Laredo, Tex. 14,855
Greenville, S. C. 15,741	Indian Orchard, Mass 6,200	Larksville, Pa. 9,288
Greenville, Tex. 8,850	Iola, Kan. 9,032	La Salle, Ill. 11,537
Greenwood, Miss. 5,836	Ionia, Mich. 5,030	Las Vegas, N. M. 3,179
Greenwood, S. C. 6,614	Iowa City, Iowa. 10,091	Latrobe, Pa. 8,777
Griffin, Ga. 7,478	Ipswich, Mass. 5,000	Laurel, Miss. 8,465
Grinnell, Iowa. 5,036	Iron Mountain, Mich. 9,216	Laurium, Mich. 8,537
Gulfport, Miss. 6,386	Ironton, Ohio. 13,147	Lawrence, Kan. 12,374
Guthrie, Okla.* 11,654	Ironwood, Mich. 12,821	Lawrence, Mass. 85,892
Guttenberg, N. J. 5,647	Irvington, N. J. 11,877	Lawton, Okla. 7,788
Hackensack, N. J. 14,050	Ishpeming, Mich. 12,448	Lead, S. Dak. 8,392
Hagerstown, Md. 16,507	Ithaca, N. Y. 14,802	Leadville, Colo. 7,508
Hamilton, Ohio. 35,279	Jackson, Mich. 31,433	Leavenworth, Kan. 19,363
Hammond, Ind. 20,925	Jackson, Miss.* 21,262	Lebanon, Ind. 5,474
Hammonton, N. J. 5,088	Jackson, Ohio. 5,468	Lebanon, N. H. 5.718
Hampton, Va. 5,505	Jackson, Tenn. 15,779	Lebanon, Pa. 19,240
Hancock, Mich. 8,981	Jacksonville, Fla. 57,699	Lehighton, Pa. 5,316
Hannibal, Mo. 18,341	Jacksonville, Ill. 15,326	Leominster, Mass. 14,910
Hanover, Pa. 7,057	Jamestown, N. Y. 31,297	Lewiston, Idaho 6,043
Harrisburg, Ill. 5,309	Jamestown, N. Dak. 4,358	Lewiston, Me. 26,247
Harrisburg, Pa.* 64,186	Janesville, Wis. 13,894	Lewistown, Pa. 8,166
Harrison, N. J. 14,498	Jeannette, Pa. 8,077	Lexington, Ky. 35,099
Harrisonburg, Va. 4,879	Jefferson City, Mo.* 11 850	Lexington, Mo. 5,242
Hartford, Conn.* 98,915	Jeffersonville, Ind. 10,412	Lexington, Va. 2,931
Hartford City, Ind. 6.187	Jersey City, N. J. 267,779	Lima, Ohio. 30,508
Hartwell, Ohio. 2.823	Jersey Shore, Pa. 5,381	Lincoln, Ill. 10,892

Lincoln, Neb.*	43,973	Melrose, Mass.	15,715	Nelsonville, Ohio	6,082
Linton, Ind.	5,906	Memphis, Tenn.	131,105	Nevada, Mo.	7,176
Litchfield, Ill.	5,971	Menasha, Wis.	6,081	New Albany, Ind.	20,629
Little Falls, Minn.	6,078	Menominee, Mich.	10,507	Newark, N. J.	347,469
Little Falls, N. Y.	12,273	Menomonie, Wis.	5,036	Newark, N. Y.	6,227
Little Rock, Ark.*	45,941	Meriden, Conn.	27,265	Newark, Ohio	25,404
Livingston, Mont.	5,359	Meridian, Miss.	23,285	New Bedford, Mass.	96,652
Lock Haven, Pa.	7,772	Merrill, Wis.	8,689	Newbern, N. C.	9,961
Lockport, N. Y.	17,970	Methuen, Mass.	9,110	Newberry S. C.	5,028
Logan, Utah.	7,522	Mexico, Mo.	5,939	New Brighton, Pa.	8,32¢
Logansport, Ind.	19,050	Miami, Fla.	5,471	New Britain, Conn.	43,916
Longbeach, Cal.	17,809	Michigan City, Ind.	19,027	New Brunswick, N. J.	23,388
Long Branch, N. J.	13,298	Middleboro, Mass.	5,700	Newburgh, N. Y.	27,805
Longview, Tex.	5,155	Middlesboro, Ky.	7,305	Newburg, Ohio.	5,813
Lorain, Ohio.	28,883	Middletown, Conn.	11,851	Newburyport, Mass.	14,949
Los Angeles Cal.	319,198	Middletown, N. Y.	15,313	Newcastle, Ind.	9.446
Louisville, Ky.	223,928	Middletown, Ohio.	13,152	New Castle, Pa.	36,280
Lowell, Mass.	106,294	Middletown, Pa.	5,374	New Decatur, Ala.	6,118
Ludington, Mich.	9,132	Milford, Mass.	12,910	New Haven, Conn.	133,605
Luzerne, Pa.	5,426	Millvale, Pa.	7,861	New Iberia, La.	7,499
Lynchburg, Va.	29,494	Millville, N. J.	12,451	New Kensington, Pa.	7,707
Lynn, Mass.	89,336	Milton, Mass.	7,210	New London, Conn.	19 659
McAlester, Okla.	12,054	Milton, Pa.	7,460	Newnan, Ga.	5,548
McComb, Miss.	6,237	Milwaukee, Wis.	373,857	New Orleans, La.	339,075
McKeesport, Pa.	42,694	Minersville, Pa.	7,240	New Philadelphia, Ohio	8,542
McKees Rocks, Pa.	14.702	Minneapolis, Minn.	301,408		
Macomb, Ill.	5,774	Minot, N. Dak.	6,188	Newport, Ky.	30,309
Macon, Ga.	40.665	Mishawaka, Ind.	11,886	Newport, R. I.	27,149
Madison, Ill.	5,046	Missoula, Mont.	12,869	Newport News, Va.	20,205
Madison, Ind.	6.934	Mitchell, S. Dak.	6,515	New Rochelle, N. Y.	28,867
Madison, Wis.*	25,531	Moberly, Mo.	10,923	Newton, Kan.	7,862
Madisonville, Ohio.	5,193	Mobile, Ala.	51,521	Newton, Mass.	39,806
Mahanoy City, Pa.	15,936	Moline, Ill.	24,199	Newton Center, Mass.	6,000
Malden, Mass.	44,404	Monessen, Pa.	11,775	Newtonville, Mass.	5,700
Malone, N. Y.	6,467	Monmouth. Ill.	9,128	New Ulm, Minn.	5,648
Mamaroneck, N. Y.	5,699	Monongahela, Pa.	7,598	New York, N. Y.	4,776,883
Manchester, N. H.	70,063	Monroe, La.	10,209	Niagara Falls, N. Y.	30,445
Manchester, Va.	12,200	Monroe, Mich.	6,893	Niles, Mich.	5,156
Manhattan, Kan.	5,722	Montclair, N. J.	21,550	Niles, Ohio.	8,361
Manistee, Mich.	12,381	Montgomery, Ala.*	38,136	Noblesville, Ind.	5,073
Manitowoc, Wis.	13,027	Montpelier, Vt.*	7,856	Norfolk, Neb.	6,025
Mankato, Minn.	10,365	Morenci, Ariz.	5,010	Norfolk, Va.	67,452
Mansfield, Ohio.	20,768	Morgan City, La.	5,477	Norristown, Pa.	27,875
Marblehead, Mass.	7 010	Morgantown, W. Va.	9,150	North Adams, Mass.	22,019
Marietta, Ga.	5,949	Morristown, N. J.	12,507	Northampton, Mass.	19,431
Marietta, Ohio.	12,923	Moundsville, W. Va.	8,918	Northampton, Pa.	8,729
Marinette, Wis.	14,610	Mt. Carmel, Ill.	6,934	North Andover, Mass	5,210
Marion, Ill.	7,093	Mt. Carmel, Pa.	17,532	North Attleboro, Mass	7,910
Marion, Ind.	19,359	Mt. Clemens, Mich.	7,707	North Braddock, Pa.	11,824
Marion, Ohio.	18,232	Mt. Pleasant, Pa.	5,812	North Plainfield, N. J.	6,117
Marlboro, Mass.	14,579	Mt. Vernon, Ill.	8,007	North Tarrytown, N. Y.	5,421
Marquette, Mich.	11,503	Mt. Vernon, Ind.	5,563		
Marshall, Tex.	11,452	Mt. Vernon, N. Y.	30,919	North Tonawanda, N.Y.	11,955
Marshalltown, Iowa.	13,374	Mt. Vernon, Ohio.	9,087		
Marshfield, Wis.	5,783	Muncie, Ind.	24,005	North Yakima, Wash.	14,082
Martinsburg, W. Va.	10,698	Munhall, Pa.	5,185	Norwalk, Conn.	6,954
Martins Ferry, Ohio.	9,133	Murphysboro, Ill.	7,485	Norwalk, Ohio.	7,858
Marysville, Cal.	5,430	Muscatine, Iowa.	16,178	Norwich, Conn.	20,367
Mason City, Iowa.	11,230	Muskegon, Mich.	24,062	Norwich, N. Y.	7,422
Massillon, Ohio.	13,879	Muskogee, Okla.	25,278	Norwood, Mass.	7,910
Matteawan, N. Y.	6,727	Nanticoke, Pa.	18,877	Norwood, Ohio.	16,185
Mattoon, Ill.	11,456	Napa, Cal.	5,791	Nutley, N. J.	6,009
Mayfield, Ky.	5.916	Nashua, N. H.	26,005	Oakland, Cal.	150,174
Maynard, Mass.	5,910	Nashville, Tenn.*	110,364	Oak Park, Ill.	19,444
Maysville, Ky.	6,141	Natchez, Miss.	11,791	Oconto, Wis.	5,629
Maywood, Ill.	8,033	Natick, Mass.	8,900	Oelwein, Iowa.	6,028
Meadville, Pa.	12,780	Natick, R. I.	5,000	Ogden, Utah.	25,580
Mechanicsville, N. Y.	6,634	Naugatuck, Conn.	12,722	Ogdensburg, N. Y.	15,933
Medford, Mass.	23,150	Nebraska City, Neb.	5,488	Oil City, Pa.	15,657
Medford, Ore.	8,840	Neenah, Wis.	5,734	Oklahoma, Okla.	64,205
Medina, N. Y.	5,683	Negaunee, Mich.	8,460	Oldforge, Pa.	11,324

Oldtown, Me..... 6,317
Olean, N. Y..... 14,743
Olney, Ill..... 5,011
Olympia, Wash.*.... 6,996
Olyphant, Pa..... 8,505
Omaha, Neb..... 124,096
Oneida, N. Y..... 8,317
Oneonta, N. Y..... 9,491
Orange, N. J..... 29,630
Orange, Tex..... 5,527
Orangeburg, S. C.... 5,906
Oshkosh, Wis..... 33,062
Oskaloosa, Iowa..... 9,466
Ossining, N. Y..... 11,480
Oswego, N. Y..... 23,368
Ottawa, Ill..... 9,535
Ottawa, Kan..... 7,650
Ottumwa, Iowa..... 22,012
Owatonna, Minn..... 5,658
Owensboro, Ky..... 16,011
Owosso, Mich..... 9,639
Paducah, Ky..... 22,760
Painesville, Ohio..... 5,501
Palestine, Tex..... 10,482
Palmer, Mass..... 5,950
Pana, Ill..... 6,055
Paragould, Ark..... 5,248
Paris, Ill..... 7 664
Paris, Ky..... 5,859
Paris, Tex..... 11,269
Park, Tenn..... 5,126
Parkersburg, W. Va..17,842
Parsons, Kan..... 12,463
Pasadena, Cal.....30,291
Passaic, N. J..... 54,773
Paterson, N. J..... 125,600
Pawtucket, R. I..... 51,622
Peabody, Mass..... 14,910
Peekskill, N. Y..... 15,245
Pekin, Ill..... 9,897
Pensacola, Fla..... 22,982
Peoria, Ill..... 66,950
Perth Amboy, N. J.... 32,121
Peru, Ill..... 7,984
Peru, Ind..... 10,910
Petaluma, Cal..... 5,880
Petersburg, Va..... 24,127
Philadelphia, Pa..1,549,008
Phillipsburg, N. J... 13,903
Phoenix, Ariz.*..... 11,134
Phoenixville, Pa..... 10,743
Pierre, S. Dak.*..... 3,656
Pinebluff, Ark..... 15,102
Piqua, Ohio..... 13,388
Pittsburg, Kan..... 14,755
Pittsburg, Pa..... 533,905
Pittsfield, Mass..... 32,121
Pittston, Pa..... 16,267
Plainfield, N. J..... 20,550
Plattsburg, N. Y..... 11,138
Plymouth, Mass..... 11,200
Plymouth, Pa..... 16,996
Pocatello, Idaho..... 9,110
Pomona, Cal..... 10,207
Pontiac, Ill..... 6,090
Pontiac, Mich..... 14,532
Poplarbluff, Mo..... 6,916
Portage, Wis..... 5,440
Port Arthur, Tex..... 7,663
Port Chester, N. Y.... 12,809
Port Huron, Mich.... 18,863
Port Jervis, N. Y..... 9,564
Portland, Ind..... 5,130
Portland, Me..... 58,571
Portland, Ore..... 207,214
Portsmouth, N. H.... 11,269
Portsmouth, Ohio.... 23,481
Portsmouth, Va..... 33,190
Pottstown, Pa..... 15,599
Pottsville, Pa..... 20,236
Poughkeepsie, N. Y..27.936
Prescott, Ariz..... 5,092
Princeton, Ind..... 6,448
Princeton, N. J..... 5,136
Providence, R. I.*... 224,326
Provo, Utah,..... 8,925
Pueblo, Colo..... 44,395
Punxsutawney, Pa... 9,058
Putnam, Conn... ... 6,637
Quincy, Ill..... 36,587
Quincy, Mass..... 32,642
Racine, Wis..... 38,002
Radford, Va..... ... 4,202
Rahway, N. J..... 9,337
Raleigh, N. C.* 19,218
Rankin Station, Pa.... 6,042
Ravenna, Ohio..... 5,310
Reading, Pa..... 96,071
Red Bank, N. J..... 7 398
Redlands, Cal..... 10,449
Red Wing, Minn 9,048
Reno, Nev..... 10,867
Rensselaer, N. Y..... 10,711
Revere, Mass..... 18,219
Rhinelander, Wis.... 5,637
Richmond, Cal..... 6,802
Richmond, Ind..... 22,324
Richmond, Ky..... 5,340
Richmond, Va.*.... 127,628
Ridgewood, N. J..... 5,416
Ridgway, Pa..... 5,408
Riverside, Cal..... 15,212
Roanoke, Va..... 34,874
Rochester, Minn..... 7,844
Rochester, N. H..... 8,868
Rochester, N. Y..... 218,149
Rochester, Pa..... 5,903
Rockford, Ill..... 45,401
Rockhill, S. C..... 7,216
Rock Island, Ill..... 24,335
Rockland, Me..... 8,174
Rock Springs, Wyo... 5,778
Rockville, Conn 7,977
Rockymount, N. C... 8,051
Rome, Ga..... 12,099
Rome, N. Y..... 20,497
Roosevelt, N. J..... 5,786
Rosedale, Kan. 5,960
Roswell, N. M..... 6,172
Rumford Falls, Me... 5,427
Rutherford, N. J..... 7,045
Rutland, Vt..... 13,546
Saco, Me..... 6,583
Sacramento, Cal.*... 44.696
Saginaw Mich..... 50,510
St. Albans, Vt..... 6.381
Saint Augustine, Fla.. 5,494
St. Bernard, Ohio.... 5.002
St. Charles, Mo..... 9,437
St. Clair, Pa. (Allegheny Co.)..... 5,640
St. Clair, Pa. (Schuylkill Co.)..... 6,455
St. Cloud, Minn..... 10,600
St. Johnsbury, Vt.... 6,693
St. Joseph, Mich..... 5,936
St. Joseph, Mo..... 77,403
St. Louis, Mo..... 687,029
St. Marys, Ohio..... 5,732
St. Marys, Pa..... 6,346
St. Paul, Minn.*.... 214.744
Salamanca, N. Y..... 5.792
Salem, Mass..... 43,697
Salem, N. J..... 6,614
Salem, Ohio..... 8,943
Salem, Ore.*..... 14,094
Salina, Kan..... 9,688
Salisbury, Md..... 6,690
Salisbury, N. C..... 7,153
Salt Lake City, Utah.* 92,777
San Angelo, Tex..... 10,321
San Antonio, Tex.... 96,614
San Bernardino, Cal.. 12,779
San Diego, Cal..... 39,578
Sandusky, Ohio..... 19,989
Sanford, Me..... 6,800
San Francisco, Cal...416,912
San Jose, Cal..... 28,946
San Luis Obispo, Cal. 5,157
San Rafael, Cal..... 5,934
Santa Ana, Cal..... 8,429
Santa Barbara, Cal... 11,659
Santa Cruz, Cal..... 11,146
Santa Fe, N. M.*.... 5,072
Santa Monica, Cal.... 7,847
Santa Rosa, Cal..... 7,817
Sapulpa, Okla..... 8,283
Saratoga Springs, N. Y12,693
Sault Ste. Marie, Mich 12,615
Savannah, Ga..... 65,064
Sayre, Pa..... 6,426
Schenectady, N. Y.... 72,826
Scottdale, Pa..... 5,456
Scranton, Pa..... 129,867
Seattle, Wash..... 237,194
Sedalia, Mo..... 17,822
Selma, Ala..... 13,649
Seneca Falls, N. Y.... 6,588
Seymour, Ind..... 6,305
Shamokin, Pa..... 19,588
Sharon, Pa..... 15 270
Sharpsburg, Pa..... 8,153
Shawnee, Okla..... 12,474
Sheboygan, Wis..... 26,398
Shelbyville, Ind..... 9,500
Shenandoah, Pa..... 25,774
Sheridan, Wyo..... 8,408
Sherman, Tex..... 12,412
Shreveport, La..... 28,015
Sidney, Ohio..... 6,607
Sioux City, Iowa..... 47,828
Sioux Falls, S. Dak... 14,094
Skowhegan, Me..... 5,200
Solvay, N. Y..... 5,139
Somersworth, N. H... 6,704
Somerville Mass..... 77,236
Somerville, N. J..... 5,060
South Amboy, N. J... 7,007
South Bend, Ind..... 53,684
South Bethlehem, Pa.. 19,973
Southbridge, Mass... 10,210

South Framingham, Mass. 9,100	Tombstone, Ariz..... 1,582	Waynesboro, Pa..... 7,199
South Haven, Mich.. 6,000	Tonawanda, N. Y.... 8.290	Weatherford, Tex.... 5,074
South Manchester, Conn. 3,577	Topeka, Kan.*..... 43,684	Webb City, Mo..... 11,817
South Milwaukee, Wis 6,092	Torrington, Conn.... 15,483	Webster, Mass..... 10,210
South Norwalk, Conn. 8,968	Traverse City, Mich.. 12,115	Webster, Iowa..... 5,208
South Omaha, Neb... 26,259	Trenton, Mo..... 5,656	Webster Groves, Mo.. 7,080
South Orange, N. J... 6,014	Trenton, N. J.*..... 96.815	Weehawken, N. J..... 11,228
South Portland, Me... 7,471	Trinidad, Colo..... 10.204	Wellington, Kan..... 7,034
South Sharon, Pa..... 10,190	Troy, N. Y..... 76,813	Wellston, Mo..... 7,312
Spartanburg, S. C.... 17,517	Troy, Ohio..... 6,122	Wellston, Ohio..... 6,875
Spencer, Mass..... 6,500	Tucson, Ariz..... 13,193	Wellsville, Ohio..... 7,769
Spokane, Wash..... 104,402	Tulsa, Okla..... 18,182	West Allis, Wis..... 6,645
Springfield, Ill.*..... 51,678	Turners Falls, Mass.. 5,200	Westbrook, Me..... 8,281
Springfield, Mass..... 88,926	Tuscaloosa, Ala..... 8,407	West Chester, Pa..... 11,767
Springfield, Mo..... 35,201	Twin Falls, Idaho.... 5,258	Westerly, R. I..... 8,100
Springfield, Ohio..... 46,921	Tyler, Tex..... 10,400	Westfield, Mass..... 15,000
Spring Valley, Ill..... 7,035	Tyrone, Pa..... 7,176	Westfield, N. J..... 6,420
Stamford, Conn..... 25.138	Union, N. J..... 21,023	West Haven, Conn... 8,543
Staunton, Ill..... 5,048	Union, S. C..... 5,623	West Hoboken, N. J.. 35,403
Staunton, Va..... 10,604	Uniontown, Pa..... 13,344	West Newton, Mass.. 7,200
Steelton, Pa..... 14,246	Urbana, Ill..... 8,245	West New York, N. J. 13,560
Sterling, Ill..... 7,467	Urbana, Ohio..... 7,739	West Orange, N. J.... 10,980
Steubenville, Ohio.... 22,391	Utica, N. Y..... 74,419	West Pittston, Pa 6,848
Stevens Point, Wis.... 8,692	Valdosta, Ga..... 7,656	West Tampa, Fla..... 8,258
Stillwater, Minn..... 10,198	Vallejo, Cal..... 11,340	Wheeling, W. Va.. .. 41,641
Stockton, Cal..... 23,253	Valley City, N. Dak.. 5,100	White Plains, N. Y .. 15,949
Stoneham, Mass..... 6,910	Valparaiso, Ind..... 6,987	Whiting, Ind..... 6,587
Streator, Ill..... 14,253	Vancouver, Wash.... 9,300	Whitman, Mass..... 6,000
Suffolk, Va..... 7,008	Van Wert, Ohio..... 7,157	Wichita, Kan..... 52.450
Sulphur Springs, Tex 5,151	Vicksburg, Miss..... 20,814	Wichita Falls, Tex.... 8,200
Summit, N. J..... 7,500	Vincennes, Ind..... 14,895	Wilkes Barre, Pa..... 67,105
Sumter, S. C..... 8,109	Vineland, N. J..... 5,282	Wilkinsburg, Pa..... 18,924
Sunbury, Pa..... 13,770	Virginia, Minn..... 10,473	Williamsport, Pa..... 31.860
Superior, Wis..... 40,384	Wabash, Ind..... 8,687	Willimantic, Conn.... 11,230
Swampscott, Mass.... 5.910	Waco, Tex.. 26,425	Wilmerding, Pa..... 6,133
Swissvale, Pa..... 7,381	Wahpeton, N. Dak... 2,467	Wilmington, Del..... 87.411
Swoyersville, Pa..... 5,396	Wakefield, Mass..... 11,310	Wilmington, N. C.... 25,748
Syracuse, N. Y..... 137,249	Walla Walla, Wash... 19,364	Wilson, N. C..... 6,717
Tacoma, Wash..... 83,743	Wallingford, Conn... 8,690	Windber, Pa..... 8,013
Talladega, Ala..... 5,854	Waltham, Mass..... 27,834	Winchester, Ky..... 7,156
Tallahassee, Fla.*.... 5,018	Wapakoneta, Ohio... 5,349	Winchester, Mass.. .. 6,000
Tamaqua, Pa..... 9,462	Ware, Mass..... 8,000	Winchester, Va..... 5,864
Tampa, Fla..... 37,782	Warren, Ohio..... 11,081	Winfield, Kan..... 6,700
Tarentum, Pa..... 7,414	Warren, Pa..... 11,080	Winona, Minn..... 18,583
Tarrytown, N. Y..... 5,600	Warren, R. I..... 6,450	Winsted, Conn..... 7,754
Taunton, Mass..... 34,259	Washington, D. C... 331,069	Winston Salem, N. C. 22,700
Taylor, Pa..... 9,060	Washington, Ind..... 7,854	Winthrop, Mass..... 10,132
Taylor, Tex..... 5,314	Washington C.H., Ohio 7,277	Winton, Pa..... 5,280
Taylorville, Ill..... 5.446	Washington, Pa..... 18,778	Woburn, Mass..... 15,308
Temple, Tex..... 10,993	Waterbury, Conn.... 73,141	Woonsocket, R. I.... 38,125
Terre Haute, Ind..... 58,157	Waterloo, Iowa..... 26,693	Wooster, Ohio..... 6,136
Terrell, Tex..... 7,050	Watertown, Mass..... 12,800	Worcester, Mass.... 145,986
Texarkana, Ark..... 5,655	Watertown, N. Y..... 26,730	Wyandotte, Mich.... 8,287
Texarkana, Tex..... 9,790	Watertown, S. Dak... 7,010	Xenia, Ohio..... 8,706
Thomasville, Ga..... 6,727	Watertown, Wis..... 8,829	Yazoo City, Miss..... 6,796
Thompsonville, Conn. 6.000	Waterville, Me..... 11,458	Yonkers, N. Y..... 79,803
Three Rivers, Mich... 5,072	Watervliet, N Y..... 15,074	York, Neb..... 6,235
Throop, Pa..... 5,133	Waukegan, Ill..... 16,069	York, Pa..... 44,750
Tiffin, Ohio..... 11.894	Waukesha, Wis..... 8,740	Youngstown, Ohio... 79,066
Titusville, Pa..... 8,533	Wausau, Wis..... 16,560	Ypsilanti, Mich..... 6,230
Toledo, Ohio..... 168,497	Waxahachie, Tex..... 6,205	Zanesville, Ohio..... 28,026
	Waycross, Ga..... 14,485	

POPULATION OF PRINCIPAL CITIES IN CANADA, 1911 AND 1901

ALBERTA.

Municipality.	1911	1901	Inc.
Calgary	43,756	4,097	39,639
Edmonton	24,882	2,626	22,256
Lethbridge	8,048	2,072	5,976
Medicine Hat	5,572	1,750	4,002
Strathcona	5,580	550	5,030

BRITISH COLUMBIA

Municipality	1911	1901	Inc.
Nanaimo	8,305	6,130	2,175
Nelson	4,474	5,273	*799
New Westminster	13,394	6,499	6,895
Prince Rupert	4,771	....	4,771
Point Grey	4,319	....	4,319
Vancouver	100,333	27,010	73,323
Vancouver North	7,781	....	7,781
Vancouver South	16,021	....	16,021
Victoria	31,620	20,816	10,804

MANITOBA.

Municipality.	1911	1901	Inc.
Brandon	13,387	5,620	8,217
Portage la Prairie	5,885	3,901	1,984
St. Boniface	7,717	2,019	7,698
Winnipeg	135,430	42,340	93,090

NEW BRUNSWICK

Municipality.	1911	1901	Inc.
Fredericton	7,208	7,117	91
Moncton	11,329	9,026	2,303
St. John	42,363	40,711	1,652

NOVA SCOTIA.

Municipality.	1911	1901	Inc.
Amherst	z.....	4,964	....
Dartmouth	5,058	4,806	252
Glace Bay	16,561	6,945	9,616
Halifax	46,081	40,832	5,249
North Sydney	5,418	4,646	772
Sydney Mines	7,464	3,191	4,273
Sydney Town	17,617	9,909	7,708
Truro	6,015	5,993	22
Yarmouth	6,571	6,420	141

z Not yet reported

ONTARIO.

Municipality.	1911	1901	Inc.
Arnprior	4,595	4,352	243
Barrie	6,428	5,949	479
Belleville	9,850	9,117	732
Berlin	15,492	9,747	5,445
Brantford	23,048	16,619	6,427
Brookville	9,372	8,940	432
Chatham	10,760	9,068	1,692
Cobalt	5,629	....	5,629
Cobourg	5,073	4,239	834
Collingwood	7,077	5,755	1,322
Cornwall	6,398	6,702	*106
Dundas	4,297	3,173	1,124
Fort William	16,498	3,633	12,865
Galt	10,299	7,866	2,433
Goderich	4,522	4,158	364
Guelph	15,148	11,498	3,652
Hamilton	81,869	52,634	29,245

*—Decrease.

ONTARIO Cont'd.

Municipality.	1911.	1901.	Inc.
Hawkesbury	4,391	4,150	241
Ingersoll	4,757	4,573	184
Kenora	6,159	5,202	957
Kingston	18,815	17,961	854
Lindsay	6,956	7,003	*47
London	46,177	37,976	8,201
Midland	4,660	3,174	1,486
Niagara Falls	9,245	4,244	5,001
North Bay	7,718	2,530	5,188
North Toronto	5,362	1,852	3,510
Orilla	6,835	4,907	1,928
Oshawa	7,433	4,394	3,039
Ottawa	86,340	59,928	26,412
Owen Sound	12,555	8,776	3,779
Pembroke	5,624	5,156	468
Peterboro	18,312	11,239	7,073
Port Arthur	11,216	3,214	8,002
Port Hope	5,089	4,188	901
St. Catharines	12,460	9,946	2,514
St. Thomas	14,050	11,485	2,565
Sarnia	9,936	8,176	1,760
Sault Ste. Marie	10,179	7,169	3,010
Smith's Falls	6,361	5,155	1,206
Stratford	12,929	9,959	2,970
Sudbury	4,140	2,027	2,113
Toronto	376,240	208,040	168,200
Waterloo	4,360	3,537	823
Welland	5,311	1,863	3,448
Windsor	17,819	12,153	5,666
Woodstock	9,321	8,833	488

PRINCE EDWARD ISLAND.

	1911	1901	Dec.
Charlottetown	11,198	12,080	*882

QUEBEC.

Municipality.	1911	1901	Inc.
Chicoutimi	5,880	3,826	2,054
Fraserville	6,842	4,569	2,273
Granby	4,750	3,773	977
Grandimere	4,783	2,511	2,712
Hull	17,585	13,993	3,552
Joliette	6,346	4,220	2,126
Lachine	10,778	5,561	5,217
Levis	7,448	7,783	*335
Longueuil	4,016	2,835	1,187
Maisonneuve	18,674	3,958	14,716
Montreal	466,197	267,730	198,467
Quebec	78,067	68,840	9,227
St. Hyacinthe	9,797	9,210	587
St. Jean	5,903	4,030	1,873
Sherbrooke	16,405	11,765	4,640
Sorel	8,419	7,057	1,862
Thetford Mines	7,262	3,256	4,006
Trois Rivieres	14,441	9,981	4,460
Valleyfield	9,447	11,055	* 1,608
Verdun	11,602	1,989	11,724
Westmount	14,318	8,856	5,462

SASKATCHEWAN.

Municipality.	1911.	1901	Inc.
Moose Jaw	13,824	1,558	12,266
Prince Albert	6,254	1,785	4,469
Regina	30,210	2,249	27,969
Saskatoon	12,002	113	11,889

*—Decrease.

POPULATION OF CANADA IN 1911 AND 1901

ALBERTA.

DISTRICTS	POPULATION 1911 MALE	FEMALE	TOTAL	TOTAL POP. 1901
Calgary	36,989	23,508	60,497	8,363
Edmonton	34,464	22,404	56,868	12,823
Macleod	20,521	13,984	34,505	7,856
Medecine Hat	44,325	27,409	71,734	10,804
Red Deer	37,085	24,281	61,366	10,549
Strathcona	28,540	20,933	49,473	12,345
Victoria	22,493	18,498	40,991	10,518
The Province	224,417	151,017	375,434	73,258

BRITISH COLUMBIA

DISTRICTS	POPULATION 1911 MALE	FEMALE	TOTAL	TOTAL POP. 1901
Comox-Atlin	30,195	11,093	41,288	21,457
Kootenay	33,973	16,798	50,771	31,962
Nanaimo	20,124	11,698	31,822	22,293
New Westminster	35,812	19,666	55,478	23,074
Vancouver City	74,390	49,512	123,902	28,895
Victoria City	19,077	12,571	31,648	20,919
Yale and Cariboo	30,264	15,614	45,878	29,155
The Province	243,835	136,952	380,787	178,657

MANITOBA

DISTRICTS	POPULATION 1911 MALE	FEMALE	TOTAL	TOTAL POP. 1901
Brandon	22,128	17,606	39,734	25,047
Dauphin	24,610	19,780	44,390	22,631
Lisgar	12,306	11,197	23,503	24,736
Macdonald	19,982	15,856	35,838	23,866
Marquette	18,832	14,766	33,598	20,431
Portage la Prairie	15,562	12,382	27,944	23,483
Provencher	21,707	18,954	40,661	24,434
Selkirk	28,910	24,254	53,164	24,021
Souris	16,142	12,907	29,049	24,222
Winnipeg	70,017	57,971	127,988	42,340
The Province	250,196	205,673	455,869	255,211

NEW BRUNSWICK

DISTRICTS	POPULATION 1911 MALE	FEMALE	TOTAL	TOTAL POP. 1901
Carleton	11,241	10,597	21,838	21,621
Charlotte	10,775	10,374	21,149	22,415
Gloucester	16,588	16,074	32,662	27,936
Kent	12,435	11,941	24,376	23,958
Kings and Albert	15,440	14,793	30,233	32,580
Northumberland	16,150	15,044	31,194	28,543
Restigouche	8,434	7,253	15,687	10,586
St. John (city and county)	26,082	27,489	53,571	51,759
Sunbury and Queens	8,904	8,073	16,977	16,906
Victoria and Madawaska	15,086	13,136	28,222	21,136

NEW BRUNSWICK Cont'd.

DISTRICTS	POPULATION 1911 MALE	FEMALE	TOTAL	TOTAL POP. 1901
Westmoreland	22,703	21,918	44,621	42,060
York	16,027	15,331	31,358	31,620
The Province	179,865	172,023	351,888	331,120

NOVA SCOTIA

DISTRICTS	POPULATION 1911 MALE	FEMALE	TOTAL	TOTAL POP. 1901
Annapolis	9,374	9,207	18,581	18,842
Antigonish	5,915	6,047	11,962	13,617
Cape Breton No. and Victoria	15,435	14,453	29,888	24,650
Cape Breton So.	28,853	24,499	53,352	35,087
Colchester	11,746	11,918	23,664	24,900
Cumberland	20,708	19,835	40,543	36,168
Digby	10,206	9,961	20,167	20,322
Guysborough	8,858	8,190	17,048	18,320
Halifax (city and county)	40,061	40,197	80,258	74,662
Hants	10,016	9,687	19,703	20,056
Inverness	13,079	12,492	25,571	24,353
Kings	10,995	10,785	21,780	21,937
Lunenburg	17,121	16,139	33,260	32,389
Pictou	18,213	17,645	35,858	33,459
Richmond	6,828	6,445	13,273	13,515
Shelburne and Queens	12,261	11,950	24,211	24,428
Yarmouth	11,350	11,870	23,220	22,869
The Province	251,019	241,320	492,339	459,574

ONTARIO

DISTRICTS	POPULATION 1911 MALE	FEMALE	TOTAL	TOTAL POP. 1901
Algoma East	28,940	15,691	44,631	25,211
Algoma West	17,924	10,784	28,708	17,894
Brant	9,735	9,526	19,261	18,273
Brantford	13,748	12,863	26,611	19,867
Brockville	8,996	9,540	18,536	18,721
Bruce North	12,169	11,619	23,788	27,424
Bruce South	13,286	12,961	26,247	31,596
Carleton	14,750	13,635	28,385	24,380
Dufferin	9,229	8,511	17,740	21,036
Dundas	9,048	9,118	18,166	19,757
Durham	13,620	12,795	26,415	27,570
Elgin East	9,002	8,595	17,597	17,901
Elgin West	13,471	13,248	26,719	25,685
Essex North	19,496	18,510	38,006	28,789
Essex South	15,069	14,471	29,540	29,955
Frontenac	11,492	10,452	21,944	24,746
Glengarry	10,620	10,659	21,279	22,131
Grenville	8,479	9,066	17,545	21,021
Grey East	10,145	9,506	19,651	23,663
Grey North	13,783	13,214	26,997	24,928
Grey South	9,726	9,525	19,251	21,053
Haldimand	11,046	10,520	21,566	21,233
Halton	11,539	10,676	22,215	19,545
Hamilton East	20,995	18,802	39,797	24,000
Hamilton West	18,645	18,635	37,280	28,634
Hastings East	13,085	11,909	24,994	27,943
Hastings West	15,446	15,388	30,834	31,348

POPULATION OF CANADA IN 1911 AND 1901

ONTARIO Cont'd.

DISTRICTS	POPULATION 1911 MALE	FEMALE	TOTAL	TOTAL POP. 1901
Huron East	8,095	8,199	16,294	19,227
Huron South	9,777	9,757	19,534	22,881
Huron West	8,452	8,734	17,186	19,712
Kent East	12,144	11,564	23,708	25,328
Kent West	16,420	15,890	32,310	31,866
Kingston	9,799	10,802	20,601	19,788
Lambton East	11,269	10,955	22,224	26,919
Lambton West	14,902	14,208	29,110	29,723
Lanark North	7,021	7,608	14,629	17,236
Lanark South	9,890	9,863	19,753	19,996
Leeds	9,147	9,057	18,204	19,254
Lennox and Addington	10,133	10,248	20,381	23,346
Lincoln	17,906	17,529	35,435	30,552
London	21,902	24,403	46,305	37,976
Middlesex East	10,667	10,147	20,814	20,228
Middlesex No	7,012	6,725	13,737	16,419
Middlesex West	8,164	8,050	16,214	18,079
Muskoka	11,204	10,029	21,233	20,971
Nipissing	43,293	30,848	74,141	28,309
Norfolk	13,702	13,408	27,110	29,147
Northumberland East	10,311	9,622	19,933	20,495
Northumberland West	6,358	6,607	12,965	13,055
Ontario North	8,798	8,343	17,141	18,390
Ontario South	12,263	11,602	23,865	22,018
Ottawa City	34,835	38,353	73,188	57,640
Oxford North	12,691	12,386	25,077	25,644
Oxford South	11,356	10,939	22,295	22,760
Parry Sound	14,456	12,084	26,540	24,936
Peel	11,640	10,457	22,097	21,475
Perth North	15,230	14,986	30,216	29,256
Perth South	9,676	9,271	18,947	20,615
Peterborough, East	8,028	7,470	15,498	16,291
Peterborough West	12,936	13,220	26,156	20,704
Prescott	13,669	13,299	26,968	27,035
Prince Edward	8,448	8,702	17,150	17,864
Renfrew North	12,089	11,525	23,614	24,556
Renfrew South	14,211	13,643	27,854	27,676
Russell	20,178	19,240	39,418	35,166
Simcoe East	18,322	16,973	35,295	29,845
Simcoe North	12,663	12,035	24,698	26,071
Simcoe South	12,625	12,444	25,069	26,399
Stormont	12,273	12,506	24,779	27,042
Thunder Bay & Rainy River	42,289	24,942	67,231	28,987
Toronto Centre	27,569	25,583	53,152	43,861
Toronto East	33,888	35,024	68,912	40,194
Toronto North	24,501	31,967	56,468	40,886
Toronto South	24,312	19,644	43,956	38,108
Toronto West	51,628	53,740	105,368	44,991
Victoria	19,074	17,434	36,508	38,511
Waterloo North	16,616	17,001	33,617	27,124
Waterloo South	14,475	14,513	28,988	25,470
Welland	22,272	19,891	42,163	31,588
Wellington No.	11,366	10,926	22,292	26,120
Wellington So.	16,265	15,935	32,200	29,526
Wentworth	17,724	16,910	34,634	26,818
York Centre	13,827	12,221	26,048	21,505
York North	11,453	10,957	22,410	22,419
York South	34,705	33,317	68,022	20,699
Province	1,299,403	1,223,955	2,523,358	2,182,947

PRINCE EDWARD ISLAND

DISTRICTS	POPULATION 1911 MALE	FEMALE	TOTAL	TOTAL POP. 1901
Kings	11,598	11,040	22,638	24,725
Prince	16,551	16,228	32,779	35,400
Queens	18,916	19,389	38,305	43,134
The Province	47,065	46,657	93,722	103 259

QUEBEC

DISTRICTS	POPULATION 1911 MALE	FEMALE	TOTAL	TOTAL POP. 1901
Argenteuil	8,658	8,110	16,768	16,407
Bagot	9,135	9,071	18,206	18,181
Beauce	26,035	25,364	51,399	43,129
Beauharnois	10,632	10,160	20,792	21,732
Bellechasse	10,632	10,509	21,141	18,706
Berthier	9,950	9,922	19,872	19,980
Bonaventure	14,379	13,731	28,110	24,495
Brome	6,871	6,345	13,216	13,397
Chambly and Vercheres	14,327	14,388	28,715	24,318
Champlain	23,293	19,465	42,758	32,015
Charlevoix	10,649	9,988	20,637	19,334
Chateauguay	6,647	6,675	13,322	13,583
Chicoutimi and Saguenay	32,755	30,563	63,318	48,291
Compton	15,655	13,975	29,630	26,460
Deux-Montagnes	7,002	6,866	13,868	14,438
Dorchester	12,930	12,166	25,096	21,007
Drummond and Arthabaska	21,233	20,357	41,590	38,999
Gaspe	18,195	16,806	35,001	30,683
Hochelaga	36,708	38,344	75,052	56,919
Huntingdon	6,707	6,533	13,240	13,979
Jacques Cartier	33,373	33,101	66,474	26,168
Joliette	11,841	12,070	23,911	22,255
Kamouraska	10,619	10,269	20,888	19,099
Labelle	21,135	19,222	40,357	32,901
Laprairie and Napierville	9,937	9,398	19,335	19,633
L'Assomption	7,577	7,587	15,164	13,995
Laval	15,703	14,975	30,678	19,743
Levis	14,317	14,592	28,909	26,210
L'Islet	8,538	7,897	16,435	14,439
Lotbiniere	11,144	11,014	22,158	20,039
Maisonneuve	85,577	85,401	170,978	65,178
Maskinonge	8,265	8,244	16,509	15,813
Megantic	16,701	15,084	31,785	23,878
Missisquoi	8,893	8,573	17,466	17,339
Montcalm	7,066	6,796	13,862	13,001
Montmagny	8,724	8,623	17,347	14,757
Montmorency	6,606	6,609	13,215	12,311
Montreal:				
(Ste. Anne)	11,402	10,278	21,680	23,368
(St. Antoine)	23,694	24,910	48.604	47,653
(St. Jacques)	22,030	22,030	44,060	42,618
(St. Laurent)	27,637	28,222	55,859	40,808
(Ste. Marie)	27,279	27,643	54 911	40,631
Nicolet	15,077	14,978	30,055	27,209
Pontiac	15,634	13,781	29,415	25,722
Portneuf	15,336	15,193	30,529	27,159
Quebec Centre	9,281	11,866	21,147	20,366
Quebec East	22,457	24,972	47,429	39,325
Quebec West	4,372	5,255	9,627	9,149

POPULATION OF CANADA IN 1911 AND 1901

QUEBEC Cont'd.

DISTRICTS	POPULATION 1911 MALE	FEMALE	TOTAL	TOTAL POP. 1901
Quebec County.	12,858	12,986	25,844	22,101
Richelieu.....	10,332	10,354	20,686	19,518
Richmond and Wolfe.....	20,230	19,261	39,491	34,137
Rimouski.....	26,491	24,999	51,490	40,157
Rouville.....	6,609	6,522	13,131	13,407
St. Hyacinthe..	10,633	11,709	22,342	21,543
St. Jean and Iberville.....	11,062	10,820	21,882	20,679
Shefford.....	12,147	11,831	23,978	23,628
Sherbrooke....	11,648	11,563	23,211	18,426
Soulanges.....	4,640	4,760	9,400	9,928
Stanstead.....	10,301	10,464	20,765	18,998
Temiscouata...	18,650	17,780	36,430	29,185
Terrebonne....	14,601	14,435	29,036	26,816
Trois Rivieres and St. Maurice	18,203	17,950	36,153	29,311
Vaudreuil.....	5,585	5,454	11,039	10,445
Wright.....	24,771	23,561	48,332	42,830
Yamaska.....	9,805	9,706	19,511	20,564
Quebec, Unorganized.....	1,332	734	2,066	2,405
P'vince	1,012,506	992,799	2,005,305	1,648,898

SASKATCHEWAN

DISTRICTS	POPULATION 1911 MALE	FEMALE	TOTAL	TOTAL POP. 1901
Assiniboia.....	24,609	17,947	42,556	9,332
Battleford.....	27,719	17,335	45,054	6,171
Humboldt.....	30,382	21,731	52,113	2,166
Mackenzie.....	22,203	18,355	40,558	13,537
Moose Jaw....	55,067	32,633	87,700	5,761
Prince Albert...	20,743	15.449	36,192	12,795
Qu'Appelle.....	20,035	15.534	35,569	17,178
Regina.....	42,984	25.049	68,033	7,703
Saltcoats.....	16,021	12,674	28,695	9,479
Saskatoon.....	29,351	22,071	51,422	7,157
The Province	289,114	198,778	487,892	91,279

THE TERRITORIES.

DISTRICTS	POPULATION 1911 MALE	FEMALE	TOTAL	TOTAL POP. 1901
Yukon.....	.....	.....	10,051	27,219
North West Territories...	7,930	7,763	15,693	20,129

Note.—This table is complete for the whole of Canada excepting two subdistricts in Saskatchewan, ten in British Columbia and a few subdistricts in Yukon territory. Yukon, however, does not give any population by males and females, and therefore the total population for Canada does not agree with the total of males and females in the first line.

POPULATION OF THE WORLD

Compiled According to the Latest Official Figures.

Countries.	Population.	Sq. Miles.	Capitals.
China	439,214,000	4,277,170	Peking.
British Empire	396,294,752	11,467,294	London.
Russian Empire	152,009,300	8,647,657	St. Petersburg.
United States	93,402,151	3,616,484	Washington.
United States and Islands	102,361,957	3,756,884	Washington.
Philippines	7,635,426	122,000	Manila.
Porto Rico	1,118,012	3,606	San Juan.
Hawaii	191,909	6,449	Honolulu.
Tutuila, Samoa	5,800	54	.....
Guam	8,661	200	.....
France and Colonies	92,531,325	4,296,130	Paris.
France	38,961,945	207,054	Paris.
Colonies	53,412,340	4,089,076	.....
Algeria	4,739,556	184,474	Algiers.
Senegal, etc	4,523,000	806,000	St. Louis.
Tunis	1,900,000	51,000	Tunis.
Cayenne	32,908	30,500	Cayenne.
Cambodia	1,500,000	37,400	Saigon.
Cochin-China	2,968,529	22,000	.....
Tonquin	7,000,000	46,400	Hanoi.
New Caledonia	51,514	7,650	Noumea.
Tahiti	10,300	600	.....
Sahara	2,550,000	1,544,000	.....
Madagascar	2,505,000	227,000	Antananarivo.
German Empire, in Europe	64,903,423	208,830	Berlin.
Prussia	40,157,573	134,603	Berlin.
Bavaria	6,524,372	29,282	Munich.
Saxony	4,508,601	5,787	Dresden.
Württemberg	2,302,179	7,528	Stuttgart.
Baden	2,010,728	5,821	Karlsruhe.
Alsace-Lorraine	1,814,564	5,600	Strasburg.
Hesse	1,209,175	2,965	Darmstadt.
Mecklenburg-Schwerin	625,045	5,135	Schwerin.
Hamburg	874,878	158	.....
Brunswick	485,958	1,424	Brunswick.
Oldenburg	438,856	2,479	Oldenburg.
Saxe-Weimar	388,095	1,388	Weimar.
Anhalt	328,029	906	Dessau.
Saxe-Meiningen	268,916	953	Meiningen.
Saxe-Coburg-Gotha	242,432	755	Gotha.
Bremen	263,440	99	.....
Saxe-Altenburg	206,508	511	Altenburg.
Lippe	145,577	469	Detmold.
Reuss (younger line)	144,584	319	Gera.
Mecklenburg-Strelitz	103,451	1,131	Neu Strelitz.
Schwarzburg-Rudolstadt	96,335	363	Rudolstadt.
Schwarzburg-Sondershausen	85,152	333	Sondershausen.
Lubeck	105,857	115	.....
Waldeck	59,127	433	Arolsen.
Reuss (elder line)	70,603	122	Greiz.
Schaumberg-Lippe	44,992	131	Buckeburg.
German Africa	12,210,000	931,460	.....
Austro-Hungarian Empire	49,418,596	261,035	Vienna.
Japan (with Formosa)	53,875,390	147,655	Tokio.
Netherlands	5,898,429	12,648	Amsterdam.
Netherlands and Colonies	41,347,182	795,648	Amsterdam.
Borneo	1,129,889	212,747	.....
Celebes	1,878,473	71,470	.....
Java	28,746,688	50,554	Batavia.
Moluccas	410,190	43,864	Amboyna.
New Guinea	200,000	151,789	.....
Sumatra	3,168,312	161,672	.....
Surinam	70,007	46,060	Paramaribo.

POPULATION OF THE WORLD—*Continued*

COUNTRIES.	Population.	Sq. Miles.	Capitals.
Turkish Empire	41,049,720	1,622,080	Constantinople.
European Turkey	6,130,200	65,350	.....
Asiatic Turkey	17,683,500	693,610	.....
Tripoli	1,000,000	398,000	Tripoli.
Bulgaria	4,284,844	37,200	Sofia.
Egypt	9,821,100	400,000	Cairo.
Italy	32,475,253	110,550	Rome.
Italy and Colonies	36,825,253	449,050	Rome.
Abyssinia	3,500,000	150,000	.....
Eritrea	450,000	88,500	.....
Somal Coast	400,000	100,000	.....
Spain	19,503,008	194,783	Madrid.
Spanish Africa	273,709	253,580	.....
Spanish Islands	127,172	1,957	.....
Brazil	19,910,646	3,218,130	Rio Janeiro.
Mexico	13,607,259	767,005	City of Mexico.
Korea	15,063,207	82,000	Seoul.
Congo State	20,000,000	900,000	.....
Persia	7,653,000	628,000	Teheran.
Portugal	5,423,132	35,490	Lisbon.
Portugal and Colonies	14,582,084	838,442	Lisbon.
Portuguese Africa	8,248,527	793,980	.....
Portuguese Asia	910,425	8,972	.....
Sweden	5,476,441	172,876	Stockholm.
Norway	2,302,698	124,129	Kristiania.
Morocco	5,000,000	219,000	Fez.
Belgium	7,074,910	11,373	Brussels.
Siam	7,000,000	220,000	Bangkok.
Argentine Republic	6,805,684	1,135,840	Buenos Ayres.
Roumania	5,912,520	50,720	Bucharest.
Colombia	4,500,000	438,436	Bogota.
Afghanistan	4,000,000	215,400	Cabul.
Chile	3,249,092	291,544	Santiago.
Peru	4,500,000	697,640	Lima.
Switzerland	3,741,971	15,976	Berne.
Bolivia	2,267,935	709,000	La Paz.
Greece	2,433,806	25,014	Athens.
Denmark	2,585,660	15,388	Copenhagen.
Denmark and Colonies	2,630,000	102,022	Copenhagen.
Iceland	78,470	39,756	Rejkjavik.
Greenland	11,893	46,740	Godthaab.
West Indies	30,527	138	.....
Venezuela	2,591,000	593,943	Caracas.
Servia	2,493,770	18,630	Belgrade.
Liberia	2,060,000	35,000	Monrovia.
Nepaul	4,000,000	54,000	Khatmandu.
Cuba	2,048,980	44,164	Havana.
Oman	1,500,000	82,000	Muscat.
Guatemala	1,804,000	48,290	N. Guatemala.
Ecuador	1,500,000	429,000	Quito.
Haiti	1,400,000	10,204	Port au Prince.
Salvador	1,707,000	7,225	San Salvador.
Uruguay	1,111,758	72,210	Montevideo.
Khiva	800,000	22,320	Khiva.
Paraguay	635,571	196,349	Asuncion.
Honduras	553,446	46,250	Tegucigalpa.
Nicaragua	600,000	49,200	Managua.
Dominican Republic	610,000	18,045	San Domingo.
Costa Rica	351,176	18,400	San Jose.
Panama	360,542	32,280	Panama.
Montenegro	228,000	3,630	Cettinje.

Albert K. McConnell
4930 Kensington Ave
St Louis.
Mo.

Adele McConnell
Born - March-8-19
On Wed. 11. a.m.

S0-DLR-316